PUNJAB SCHOOL EDUCATION BOARD

STRUCTURE OF QUESTION PAPER/ DIVISION OF MARKS AND SYLLABI

OF VOCATIONAL STREAM

FOR ACADEMIC YEAR 2018-2019

CLASS - XI

A. SCHEME OF STUDIES
11th CLASS EXAMINATION
(SENIOR SECONDARY CERTIFICATE EXAMINATION-I)
(VOCATIONAL STREAM)
ACADEMIC YEAR 2018....2019 ONWARD

Subjects for Studies

(a) Compulsory Subjects : Every candidate shall offer the following subjects :

(a) Compulsory Subjects: Every candidate shall offer the following subjects:

Sr. No.	Subject	Th		Prac		CCE	Total Marks	Min Pass Marks
		Max/Min		Max/Min		Max		
1.	General English	65	22			10	75	25
2.	General Punjabi Or Punjab History and Culture	65	22			10	75	25
3.	Environmental Education	45	15			05	50	17
4.	Computer Science	50	17	40	13	10	100	33
5.	General Foundation Course(GFC)	45				05	50	17

Note: For the subjects mentioned at **'*'** examination will be conducted at school level, grades will be assigned and sent to Board. But the question papers of the said subjects will be supplied by the Board & it will be compulsory for the students to score at least 33%marks/ 'D' grade in these subjects to declare them pass. Grading criteria as mentioned below is same as that of academic stream.

For General Foundation Course (G.F.C) :

	Marks	**Grading**
1.	90% and above	'A+'
2.	75% & above but less than 90%	'A'
3.	60% & above but less than 75%	'B'
4.	45% & above but less than 60%	'C'
5.	33% & above but less than 45%	'D'
6.	Less than 33%	'E'

Note : To be declared 'Pass' a student has to clear General Foundation Course minimum with Grade 'D'.

(b) Elective Subjects :

Every candidate shall offer any one trade relating to anyone of the following groups. (Each trade has three compulsory subjects of 90 marks each and 30 marks are for O.J.T.)

(i) Agriculture Group
(ii) Business and Commerce Group
(iii) Home Science Group
(iv) Engineering & Technology Group
(v) Humanities and Others Group

Broad distribution of marks and periods per week.

			Periods		
			Th.	P.	Total
Elective Subject	-	I	2	8	10
Elective Subject	-	II	2	8	10
Elective Subject	-	III	2	8	10

Note :
1. Six period are for Library Studies/Extra Curricular Activities/Optional/ Tutorials/ Assignments.
2. Three weeks are for On-the-job training (O.J.T) every year based on the instructions sent by the Board from time to time.
3. In any subject if there is only one paper either of theory or of practical, the total marks for that subject will be 80 and the periods allotted will be ten.
4. Punjab School Education Board Regulations for Senior Secondary Examination are also applicable to vocational stream with certain exceptions.
5. The Board reserves the right to amend syllabus courses and/or scheme of studies as and when it considers necessary.

B. GENERAL FOUNDATION COURSE

Time:3 hrs **Theory: 45 Marks**
CCE: 05 Marks
Total: 50 Marks

Structure of Question Paper

In all, twenty three questions will be set from the prescribed syllabus. The question paper will comprise of three parts (Part-I, Part-II and Part-III). The questions will be evenly distributed from the prescribed syllabus.

Part-I will consist of Five objective type questions carrying 1 mark each. All questions will be compulsory to attempt. The answer of each question should not exceed more than one sentence.

Part-II will consist of fourteen short answer type questions carrying 3 marks each. Candidate will attempt any ten questions out of these. A question may have two or more parts. The answer of each question should not be more than one page of the answer sheet.

Part-III will consist of four questions carrying 5 marks each. Candidate will attempt any two question out of these. The answer of each question should not be more than Two pages of the answer sheet.

SYLLABUS
PART-A

1. ENTREPRENEURSHIP DEVELOPMENT

a. Entrepreneurship Career Orientation

Alternative career options under vocational stream, wage employment, self employment etc. : Dynamics of entrepreneurship; Importance and Relevance of entrepreneurship career; characteristics, role & reward of an entrepreneur.

b. Entrepreneurial Values

Entrepreneurial value orientation through activities; Innovativeness; Independence; improved performance; Respect for work.

c. Entrepreneurial Attitude

Concept & significance of different entrepreneurial Atitudes; use imagination/intuition; take moderate risk; enjoy freedom of expression and action; look for economic opportunities; find satisfaction from successful completion of tasks; Believe that they can change the environment; Take initiative; Analyze situation; & plan action; Involve in work, activity.

d. Behavioural Competencies

Innovative & risk taking; tolerance to ambiguities; problem solving; persistence; standard/quality of work performance; information seeking; systematic planning; activities.

e. Entrepreneurial Motivation

Data collection about self; introduction to need system & motivational pattern of entrepreneur; conceptualizing entrepreneurial skill & behaviour; Risk taking behaviour; Hope for success & fear of failure; learning from feed back; Understanding motive strength; achievement imageries; intensity of motives; achievement language etc; Personal efficiency-individual life goal, its linkages to entrepreneurship; Locus of control; Conceptualizing entrepreneurial values; Achievement planning; Influence competence; Entrepreneurial goal setting; Sharing entrepreneurial goal, devising clarity in terms of enterprise building. Coping with difficulties. Reinforcing help seeking ability; Creativity; Understanding & internalizing coping abilities.

Part-B

2. ENTERPRISE LAUNCHING COMPETENCIES

a. Project Identification

Definitions of Large Scale Industry (LSI), Medium Scale Industry (MSI), Small Scale Industry (SSI), tiny Sector, cottage and Rural Industries; Classification of Projects- Manufacturing, Service, Trading, Consumer Goods, Capital Goods & Ancillary Goods (Characteristics & Scope of activities of each type), Central and the State Government Policies, Programmes and Incentives with regard to SSI, Tiny sector and new entrepreneurs; Steps in setting up a business enterprise; Information about the various institutions providing help to the existing & potential entrepreneurs; District Industries Centre, Directorate of Industries, Technical Consultancy Organisation; Punjab Financial Corporation, Punjab Small Industries Development Corporation, National Small Industries Corporation, Punjab Small Industries and Export Corporation, Small Industries. Service Institute, Commercial Banks, Co-operative Banks, Punjab State Khadi & Village Industries Board etc., Reservation of Products for exclusive manufacture in SSI Sector.

(The product list should be circulated to the students).

b. Project Selection

Project /Projects Identification, generating ideas for selection of a project,; procedure for short listing the ideas generated; factors to be considered for final selection of the product-Demand, competitors, availability of factors of product-Govt. policy, profit margin etc.

c. Project Formulation & Report

Need for Project Report; Elements (steps) of a Project Report; Determining the Project size keeping in view the manageability, investment possibilities, Production and market aspectrs; Selection of plant and machinery; Determining Labour and raw material requirements in the form of the information requird in the project report (simple project report); Estimating the Project cost, production cost concepts, working capital requirements, profit ratios and the concept of inventory control; Break Even Analysis & profitibality rates, capacity utilization indicator, sales revenue indicator; Time scheduling, Project Monitoring and review Technique (Network analysis), Study of typical project report, namely of consumer goods, capital goods, ancillary goods and services, the requirements of the banks and financial institutions, project appraisal-technical, economic, financial, commercial and managerial aspects; Practice Session (Students should practice on the preparation of the project report on the similar projects).

(C) COMPULSORY SUBJECTS

1. GENERAL ENGLISH

Time: 3 Hrs **Theory: 65 Marks**
CCE: 10 Marks
Total: 75 Marks

SYLLABUS AND THE STRUCTURE OF QUESTION PAPER

Part-I (Objective type question) 8 marks

1. It will consist of 8 objective type questions carrying one mark each. Objective type questions may include questions with one word to one sentence answer **or** fill in the blank **or** true/false **or** multiple choice type questions.

   a Lessons meant for intensive study 3×1=3

   b Lessons meant for extensive study 3×1=3

   c Grammar 2×1=2

Part-II (Reading) 10 marks

2. Unseen passage for Comprehension. (passage of 150-200 words) followed by two M.C.Q, 2 single line comprehension questions, one question on fill in the blank (two), one question on match the words(two). 1+1+1+1+1+1 = 6 marks
3. Comprehension questions from poetry on a given stanza (4 questions including a question on name of the poet / poem , Rhyme / Simile / Metaphor / Personification /Alliteration/ Imagery etc on selected stanza).(1 out of two given stanzas to be attempted) 4 marks

Part-III (Writing) 10 marks

4. Note making/Message writing/Notice writing/Advertisement writing (to attempt 1 out of the given 2) 4 marks
5. Letter writing (only social and personal) (with internal choice) 6 marks

Part-IV (Grammar and Translation) 12 marks

6 Grammar items can be from anywhere.

a) Translation (sentences from Punjabi/Hindi to English). 4 marks

b) Do as directed. 8 marks

   a. Prepositions
   b. Determiners
   c. Modals
   d. Use of the same words as verb, noun and adjectives

e. Removal and use of too

f. Tenses

g. Voice

h. Narration

Part-V (Literature) 25 marks

7. Central idea (1out of 2.) 3 marks
8. Three (out of four) short answer questions of about 40 to 50 words from intensive study. 3×2=6
9. Two (out of three) short answer questions of about 40 to 50 words from extensive study. 2×2=4
10. Long answer question (100 to 120) words on theme, incident, content, character etc. from intensive study (with internal choice). 6 marks
11. Long answer type (100-120 words) question from extensive study on Character/incident/theme etc.(with internal choice). 6 marks

SYLLABUS

SECTION A
LESSONS FOR INTENSIVE STUDY

1. Gender Bias
2. The Portrait of a Lady
3. Of Studies
4. Liberty and Discipline
5. A President Speaks
6. The Earth is not Ours
7. Let's Not Forget the Martyrs
8. Water- A True Elixir
9. The First Atom Bomb
10. No Time for Fear

SECTION B
POETRY

1. Lines Written in Early Spring
2. Mother's Day
3. Television

4. Upagupta
5. Confessions of A Born Spectator
6. The Little Black Boy
7. A Thing of Beauty is a Joy For Ever

SECTION C
LESSONS FOR EXTENSIVE STUDY

1. An Astrologer's Day
2. The Tiger in the Tunnel
3. Sparrows
4. The Model Millionaire
5. The Panch Parmeshwar
6. The Peasant's Bread

SECTION D

GRAMMAR

a. Preposition
b. Determiners
c. Use of the same word as noun, verb and adjective
d. Modals
e. Tenses
f. Removal and use of too
g. Voice
h. Narration

Composition

a. Note Making
b. Message Writing
c. Notice Writing
d. Advertisement Writing
e. Letter Writing (only social and personal)

The book prescribed & published by the Punjab School Education Board.

1. (General English XI) A Panorama of Life
2. English Grammar and Composition for XI and XII

Note: All the lessons in the above book are included in the syllabus. No part has been deleted.

CLASS - XI

2. ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ : 3 ਘੰਟੇ **ਲਿਖਤੀ ਪੇਪਰ: 65 ਅੰਕ**

ਆਂਤਰਿਕ ਮੁਲਾਂਕਣ: 10 ਅੰਕ

ਕੁੱਲ :75 ਅੰਕ

ਅੰਕ ਵੰਡ ਅਤੇ ਪਾਠ-ਕ੍ਰਮ

ਲੜੀ ਨੰ:	ਪਾਠ-ਕ੍ਰਮ	ਅੰਕ
1.	ਪੰਜਾਬੀ ਲੋਕ ਸਾਹਿਤ:- ਲੋਕ-ਗੀਤ ਅਤੇ ਲੋਕ-ਕਥਾਵਾਂ	26
2.	ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਵਿੱਚ ਅਨੁਵਾਦ:- ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ:-ਬੈਂਕ, ਰੇਲਵੇ, ਡਾਕ, ਕੰਪਿਊਟਰ ਅਤੇ ਬੀਮਾ ਸੇਵਾਵਾਂ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋਂ	10
3.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਲਿਖਣ ਦਾ ਹੁਨਰ:- ਅਖ਼ਬਾਰ ਦੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ, ਇਸ਼ਤਿਹਾਰ, ਸੱਦਾ ਪੱਤਰ ਅਤੇ ਪੈਰਾ ਰਚਨਾ।	19
4.	ਵਿਆਕਰਨ:-ਮੁਹਾਵਰੇ	10
ਕੁੱਲ ਅੰਕ		**65**

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

ਪਰੀਖਿਆ ਪੱਖੋਂ ਅਧਿਆਪਕਾਂ, ਵਿਦਿਆਰਥੀਆਂ, ਪੇਪਰ ਸੈੱਟਰਾਂ ਅਤੇ ਪਰੀਖਿਅਕਾਂ ਲਈ ਵਿਸ਼ੇਸ਼ ਹਿਦਾਇਤਾਂ

ਪ੍ਰਸ਼ਨ ਨੰ: 1 ਸਮੁੱਚੇ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਅਧਾਰ ਤੇ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲ਼ੇ ਦੱਸ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ 1 ਅੰਕ ਹੋਵੇਗਾ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ :-

(ੳ) **ਪੰਜਾਬੀ ਲੋਕ-ਸਾਹਿਤ :** 2 ਅੰਕ (ਬਹੁ-ਚੋਣ, ਠੀਕ/ਗ਼ਲਤ, ਖ਼ਾਲੀ ਥਾਂਵਾਂ ਜਾਂ ਇੱਕ ਦੋ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਵਾਲ਼ੇ ਪ੍ਰਸ਼ਨ)

(ਅ) **ਲੋਕ-ਗੀਤ :** 2 ਅੰਕ (ਦੋ ਪ੍ਰਸ਼ਨ - ਦੋਵੇਂ ਪ੍ਰਸ਼ਨ ਨਿਰਧਾਰਿਤ ਪਾਠ-ਸਮਗਰੀ ਦੇ ਆਧਾਰ 'ਤੇ ਪੁੱਛੇ ਜਾਣਗੇ)।

(ੲ) **ਲੋਕ ਕਥਾਵਾਂ** : 2 ਅੰਕ (ਦੋ ਪ੍ਰਸ਼ਨ ਪਾਤਰਾਂ ਸੰਬੰਧੀ ਪੁੱਛੇ ਜਾਣਗੇ)।

(ਸ) **ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਅਨੁਵਾਦ** : 2 ਅੰਕ(ਸਿੱਧਾ ਅਰਥ ਪੁੱਛਣਾ, ਬਹੁ-ਚੋਣ, ਮਿਲਾਨ ਕਰਨਾ) ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ 'ਤੇ ਆਧਾਰਿਤ ਪਾਠ ਅਤੇ ਪਾਠ ਅਭਿਆਸ ਵਿੱਚੋ 2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ ਦਾ ਇੱਕ ਅੰਕ ਹੋਵੇਗਾ।

(ਹ) **ਮੁਹਾਵਰੇ**:-2 ਅੰਕ (1 ਅੰਕ ਵਰਤੋਂ ਸਥਿਤੀ ਦੱਸ ਕੇ ਢੁਕਵਾਂ ਮੁਹਾਵਰਾ ਲਿਖਣ, 1 ਅੰਕ ਮੁਹਾਵਰੇ ਦੇ ਅਰਥ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਬਹੁ-ਚੋਣੀ ਪ੍ਰਸ਼ਨ 'ਚੋਂ ਠੀਕ ਅਰਥ ਲਿਖਣ ਦਾ ਹੋਵੇਗਾ)। **10×1=10 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 2 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਲੋਕ-ਗੀਤਾਂ ਬਾਰੇ ਦਿੱਤੇ ਪਾਠ-ਅਭਿਆਸਾਂ ਦੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚੋਂ ਕੋਈ 4 ਪ੍ਰਸ਼ਨ ਦੇ ਕੇ ਦੋ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **5+5=10 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 3 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀਆਂ ਵੱਖ-ਵੱਖ ਵੰਨਗੀਆਂ ਦੀਆਂ ਲੋਕ-ਕਥਾਵਾਂ ਵਿੱਚੋਂ ਦੋ ਦੇ ਨਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਕਥਾ ਦਾ ਸਾਰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

10 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 4 (ੳ) ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀ ਗਈ ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ ਵਿੱਚੋਂ ਦਸ ਸ਼ਬਦ ਦੇ ਕੇ ਕਿਸੇ ਛੇ ਦੇ ਅਰਥ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **6×½=3 ਅੰਕ**

(ਅ) ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੇ ਗਏ ਬੈਂਕ, ਰੇਲਵੇ, ਡਾਕ ਅਤੇ ਬੀਮਾ-ਸੇਵਾਵਾਂ ਅਤੇ ਕੰਪਿਊਟਰ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਅੱਠ ਵਾਕ ਦੇ ਕੇ ਕੋਈ ਪੰਜ ਵਾਕਾਂ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **5×1=5 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 5 ਕਿਸੇ ਮਸਲੇ/ਘਟਨਾ ਸੰਬੰਧੀ ਕਿਸੇ ਅਖ਼ਬਾਰ ਦੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ ਲਿਖਣ ਲਈ ਦੋ ਵਿਸ਼ੇ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **2+4+2=8 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 6 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀਆਂ ਵੰਨਗੀਆਂ ਅਨੁਸਾਰ ਇੱਕ ਇਸ਼ਤਿਹਾਰ ਜਾਂ ਸੱਦਾ-ਪੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ । **5 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 7 ਕੋਈ ਤਿੰਨ ਵਿਸ਼ੇ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਵਿਸ਼ੇ ਬਾਰੇ ਲਗ-ਪਗ 150 ਸ਼ਬਦਾਂ ਦੀ ਪੈਰਾ-ਰਚਨਾ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **6 ਅੰਕ**

ਪ੍ਰਸ਼ਨ ਨੰ: 8 ਪੰਜਾਬੀ ਪਾਠ- ਪੁਸਤਕ ਵਿੱਚੋਂ ਕੋਈ ਸੱਤ ਮੁਹਾਵਰੇ ਦੇ ਕੇ ਕਿਸੇ ਚਾਰ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। **4×2=8 ਅੰਕ**

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕ: ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ-11

ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ

CLASS - XI

3. PUNJAB HISTORY & CULTURE

Time: 3 Hrs **Theory: 65 Marks**

CCE: 10 Marks

Total: 75 Marks

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.

   The question paper will comprise of four sections A, B, C and D of 18 questions in total. The question paper will carry:

A. Objective Type Questions: This type will include Question No. 1 to 7 carrying 1 mark each with one word answer/ fill in the blank/ true or false/ multiple choice type questions. **1 × 7 = 7 Marks**

B. Short Answer Type Questions: This type will include 6 questions from Question No. 8 to 13 carrying 3 marks each. Answer to each question should be in about 30- 35 words. **3 × 6 = 18 Marks**

C. Long answer Type Questions: This type will include 5 question from Question No. 14 to 18 will carry 5 marks each with 100% internal choice. Answer to each question should be in about 80-100 words. **5 × 5 = 25 Marks**

D. Map Question: There will be one section of map carrying 15 marks (10 marks for 5 places and 5 marks each for explanation)

Note:- For blind candidates alternative questions will be given in lieu of question no. 19 (map).

Note:- All units of the syllabus should be given adequate representation in the question paper.

Syllabus	**A Objective type Questions 1 mark**	**B Short Answer type Questions 3 marks**	**C Long Answer type Questions 5 marks**	**D Map question**	**Total**
Part-1 Units I-XI	04	03	03	100% Internal choice	10
Part-2 Unit XII-	03	03	02	5 Places ×2 =10 marks Explanation5×1=5	08

XXII				marks	
No.of Questions	07	06	05	1	19
Total Marks	**07**	**18**	**25**	**15**	**65**

SYLLABUS

SECTION-A

1. The Land of the People.
2. The Age of the Harappa Culture.
3. The Age of the Vedic Aryans.
4. From Buddha to Ashoka.
5. Invasions and Impact.

SECTION -B

1. The Gupta-Vardhana Age.
2. The Turks in the Punjab.
3. Education and Literature.
4. Art and Architecture.
5. The Siddhas and the Sufis.

SECTION-C

MAP QUESTION TOPICS

1. Harappa Culture
2. Ashoka Dhama- Important Places
3. The Gupta-Vardhana Age- Places
4. Any Five Historical Places

CLASS -XI

4. ENVIRONMENT EDUCATION

Time: 2 Hrs **Theory Marks: 45**

CCE Marks: 05

Total Marks: 50

STRUCTURE OF QUESTION PAPER (THEORY)

1. There will be one theory paper comprising of 17 questions. All questions will be compulsory.
2. Question No. 1-5 are very short answer type question carrying 1 mark each. Answer to each question will be in one line or few words only.
3. Question No. 6-10 are short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words.
4. Question No. 11-15 are long/medium answer type question carrying 4 marks each. Answer to each question will be in 50-60 words.
5. Question No. 16 and 17 are long answer type question carrying 5 marks each. Answer to these questions will be in 80-100 words.
6. In Question No 16 and 17 there will be 100 % internal choice.
7. There will be no objective type question like yes/ No, tick/ cross, fill in the blanks, multiple choice, true/ false etc.
8. The Question paper should be strictly from the prescribed syllabus based on above mentioned guidelines.

UNIT WISE DISTRIBUTION OF MARKS

Unit	**1 Mark questions**	**2 Mark questions**	**4 Mark questions**	**5 Mark questions**
Unit I Man and Environment	1	1	1	1 or 1
Unit II Environment and Development	1	1	1	
Unit III Environmental Pollution and Global issues	1	1	1	1 or 1
Unit IV Energy	1	1	1	
Unit V Safe work Environment and Occupational Hazards	1	1	1	---
Total Maks	**5 marks**	**10 marks**	**20 marks**	**10 marks**

INSTRUCTION FOR PAPER SETTER

1. There will be 17 questions in theory paper.
2. Questions No. 1-5 are of 1 mark each and there should be one question from each unit.
3. Question 6-10 are of 2 marks each and there should be one question from each unit.
4. Question 11-15 are of 4 marks each and there should be one question from each unit.
5. Question 16 will be of 5 marks and to be set from unit I and choice question should be set from unit II.
6. Question 17 will be of 5 marks and to be set from unit III and choice Question should be set from unit IV.

SYLLABUS

Unit- I Man and Environment

1. Environment

- Dimensions of Environment- physical, biological and social.
- Human being as rational and social partner in environmental actions.
- Society and environment in India: Indian traditions, customs and culture in past and present.

2. Population and Environment

- Demography, causes of increase in population and its ill effects on environment, urbanization.

3. Impact of human activities on Environment

- Environmental problems of urban and rural areas.
- Natural resources and their depletion
- Stress on civic amenities, supply of water and electricity, waste disposal, transport, health services.
- Vehicular emissions.
- Urbanisation- land use, housing, migrating and floating population.

Unit-II Envirtonment and Development

4. Economic and Social Development

- Economic and social needs as basic considerations for development.
- Agriculture and industry as major sector of development.
- Social factors affecting development- poverty, affluence, education, employment, child marriage and child labour, human health- HIV/AIDS, social culture and ethical values.

5. Impact of Liberalization and Globalization

- Impact of liberalization and globalization- agriculture and industries, dislocation of manpower and unemployment implications for social harmony.

6. Role of Society in Development and Environment

- Role of society in development and environment- public awareness through education, eco- clubs, population education programmes and campaigans, public participation in decision making.

Unit-III Environmental Pollution and Global Issues

7. Environmental Pollution

- Air water (fresh and marine), soil pollution- sources and consequences.
- Noise and radiation polluation- sources and consequesnces.
- Solid, liquid and gaseous pollution.

8. Pollution and Diseases

- Handling of hazardous material, process and management of hazardous wastes.
- Pollution related diseases.
- Strategies for reducing pollution and improving the environment.

9. Global Issues and Improvement of Environment

- Ozone Layer depletion and its effects.
- Greenhouse effect, global warming, climate changes and their effects on human society, agriculture plants and animals.

10. Disaster

- Disaster- natural (earthquakes, droughts, floods, cyclones, landslides) and man made (technological and industrial), their impact on the environment, prevention, control and mitligation.

Unit- IV Energy

11. Energy Consumption

- Changing global pattern of energy consumption -from ancient to modern times.
- Energy consumption as a measure of quality of life.
- Rising demand for energy gap between demand and supply (Indian context.)

12. Conventional Sources of Energy

- Conventional energy sources- fossil and firwood, potential (India context) and limitations of each source, methods of harnessing energy and environment consequences of their use.

13. Non- conventional Source of Energy

- Non Conventional energy sources- type of non -conventional sources(bio- mass, solar, wind, ocean, hydel, geothermal, nuclear),potential(Indian context) and limitations of each source, methods of harnessing and their environmental consequences, need to promote non- conventional energy sources.

14. Conservation of Energy

- Conservation of energy sour ces- efficiency in production, transportation and utilization of energy.
- Future sources of energy- hydrogen, alcohal, fuel cells.

Unit V Safe work Environment and Occupational Hazards

15. Safe Work Environment

- Safe work environement- adequate light, ventilation, cleanliness, good house keeping.

16. Safety Laws, Accidents and First- Aid

- Safety awareness management- safety precautions- home and work (laboratory, workshop, work site), safe handling of equipment and materal.
- Occupational hazards- physical, chemical, mechanical, electrical, biological, radiational and psychological.
- Accidents and major hazards in industries and occupations- fire, explosion, toxic release.
- First aid measures.
- Laws and regulations related to occupational health and safety.

17*. Drugs- ill Effects Part-I

- Importance of health, Drug-addiction, symptoms (Material upload on website)
- Drugs of abuse and their health consequences, academic and occupational consequences, consequences for family, social, legal and criminal consequences.
- Prevention of Drug , Government initiatives, the narcotic drug and psychotropic substances act-1985, offences and penalties.

*** Chapter 17 is added in the syllabus as a compulsary topic, Matter is available on the Board's website www.pseb.ac.in.**

CCE

Instructions for CCE (05 marks)

Teachers teaching the subject of Environment Education to students will evaluate them throughout the year for the work done by the student in and around the school campus regarding environmental cleanliness,

planting tress, developing herbal gardens, growing ornamental plants, medicinal plants and participating in environmental activities which are celebrated in the school. Student will also keep the record in a project file for two different projects carried by him/her. So over all evaluation of the student will be based on his/her performance and contribution to environment.

ਗਿਆਰਵੀਂ ਸ਼੍ਰੇਣੀ

5. ਕੰਪਿਊਟਰ ਸਾਇੰਸ

(ਲਿਖਤੀ ਪ੍ਰੀਖਿਆ)

ਸਮਾਂ : 3 ਘੰਟੇ **ਲਿਖਤੀ : 50 ਅੰਕ**

ਸੀ.ਸੀ.ਈ. : 10 ਅੰਕ

ਪ੍ਰਯੋਗੀ : 40 ਅੰਕ

ਕੁੱਲ : 100 ਅੰਕ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਚਾਰ ਭਾਗਾਂ (ਭਾਗ ੳ, ਭਾਗ ਅ, ਭਾਗ ਏ ਅਤੇ ਭਾਗ ਸ) ਵਿੱਚ ਵੰਡਿਆ ਹੋਵੇਗਾ।
2. ਭਾਗ ੳ ਆਬਜੈਕਟਿਵ ਟਾਇਪ ਹੋਵੇਗਾ ਜਿਸ ਵਿੱਚ 1 ਤੋਂ 6 ਤੱਕ 1-1 ਅੰਕ ਦੇ 6 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
3. ਭਾਗ ਅ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 7 ਤੋਂ 12 ਤੱਕ 2-2 ਅੰਕ ਦੇ 6 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
4. ਭਾਗ ਏ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 13 ਤੋਂ 17 ਤੱਕ 4-4 ਅੰਕ ਦੇ 5 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
5. ਭਾਗ ਸ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 18 ਤੋਂ 19 ਤੱਕ 6-6 ਅੰਕ ਦੇ 2 ਪ੍ਰਸ਼ਨ ਹੋਣਗ
6. ਭਾਗ ੳ, ਅ, ਏ ਅਤੇ ਭਾਗ ਸ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜਰੂਰੀ ਹੋਣਗੇ। ਭਾਗ ਏ ਅਤੇ ਸ ਵਿੱਚ ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਦੋ ਜਾਂ ਦੋ ਤੋਂ ਵੱਧ ਭਾਗ ਵੀ ਹੋ ਸਕਦੇ ਹਨ। ਭਾਗ ਸ ਵਿੱਚ ਅੰਦਰੂਨੀ ਛੋਟ ਹੋਵੇਗੀ।

ਲੜੀ ਨੰ	ਅਧਿਆਇ ਦਾ ਨਾਂ	ਕੁੱਲ ਅੰਕ	1 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	2 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	4 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	6 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ
1.	ਦਸਵੀਂ ਕਲਾਸ ਦੀ ਦੁਹਰਾਈ	3	1	1		
2.	"ਸੀ" ਭਾਸ਼ਾ ਵਿੱਚ ਪ੍ਰੋਗਰਾਮਿੰਗ ਲਈ ਭੂਮਿਕਾ	6		1	1	
3.	ਕਾਂਸਟੈਂਟਸ, ਵੈਰੀਏਬਲਜ਼ ਅਤੇ ਡਾਟਾ ਟਾਈਪਸ	7	1	1	1	
4.	ਓਪਰੇਟਰਸ ਅਤੇ ਐਕਸਪ੍ਰੇਸ਼ਨ	7	1	1	1	
5.	ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 1)	7	1			1
6.	ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 2)	6		1	1	
7.	ਐਰੇਸ (ਭਾਗ 1)	3	1	1		
8.	ਐਰੇਸ (ਭਾਗ 2)	4			1	
9.	ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ	7	1			1
	ਕੁੱਲ ਜੋੜ	50	6	12	20	12

1. **<u>ਦਸਵੀਂ ਕਲਾਸ ਦੀ ਦੁਹਰਾਈ</u>**

ਸਾਫਟਵੇਅਰ ਸੰਕਲਪ

ਸਿਸਟਮ ਸਾਫਟਵੇਅਰ : ਔਪਰੇਟਿੰਗ ਸਿਸਟਮ, ਯੁਟਿਲਿਟੀ ਸਾਫਟਵੇਅਰ, ਐਪਲੀਕੇਸ਼ਨ ਸਾਫਟਵੇਅਰ ਐਕਸਲ: ਡਾਟਾ ਟਾਈਪ ਫਾਰਮੂਲਾ ਅਤੇ ਫੰਕਸ਼ਨਜ਼, ਐਕਸਲ ਅਤੇ ਫੀਈਨੈੱਨਸ਼ਿਯਲ ਡਾਟਾ ਐਚ.ਟੀ.ਐਮ.ਐਲ.ਦੀ ਦੁਹਰਾਈ (REVIEW ON HTML): ਵੈੱਬ ਪੇਜਿਸ, ਐਚ.ਟੀ.ਐਮ.ਐਲ. (HTML) ਫਾਈਲ, ਮਾਈਕਰੋਸੋਫਟ ਅਸੈਸ : ਡਾਟਾ ਸੋਧਨਾ, ਅਸੈਸ ਡਾਟਾਬੇਸ ਦੇ ਆਬਜੈਕਟਸ (ਟੇਬਲ, ਕੁਐਰੀਜ, ਫਾਰਮ, ਰਿਪੋਰਟ, ਪੇਜ ਪ੍ਰਗਰਾਮਿੰਗ ਕੰਨਸੈਪਟਸ ਦੀ ਦੁਹਰਾਈ (Review on programming concepts) :ਪ੍ਰੋਗਰਾਮ ਡਿਵੈਲਪਮੈਂਟ ਦੇ ਵੱਖ-ਵੱਖ ਪੜਾਅ, ਪ੍ਰੋਗਰਾਮਿੰਗ ਭਾਸ਼ਾ ਦੇ ਐਲੀਮੈਂਟ

2. **<u>"ਸੀ" ਭਾਸ਼ਾ ਵਿੱਚ ਪ੍ਰੋਗਰਾਮਿੰਗ ਲਈ ਭੂਮਿਕਾ</u>**

ਭੂਮਿਕਾ

ਸੀ (C) ਭਾਸ਼ਾ ਦੇ ਵਿਸ਼ੇਸ਼ ਲੱਛਣ
ਸੀ (C) ਚਿੰਨ੍ਹ ਸੈੱਟ : ਐਸਕੇਪ ਚਿੰਨ੍ਹ, ਵਾਈਟ ਸਪੇਸ ਕਰੈਕਟਰ
ਸੀ(C) ਪ੍ਰੋਗਰਾਮ ਦਾ ਸਟਰਕਚਰ: ਹੈਡਰ ਫਾਈਲਜ਼, ਪ੍ਰੀ ਪ੍ਰੋਸੈਸਰ ਸਟੇਟਮੈਂਟ/ਨਿਰਦੇਸ਼, ਗਲੋਬਲ ਡਿਕਲੇਰੇਸਨਸ
ਸੀ (C) ਪ੍ਰੋਗਰਾਮ ਦਾ ਕੰਪਾਈਲ ਅਤੇ ਲਾਗੂ ਕਰਨ
ਐਡੀਟਰ ਦੀ ਵਰਤੋਂ
ਫੰਕਸ਼ਨ: ਬਿਲਟ ਇਨ ਫੰਕਸ਼ਨਸ, ਯੂਜ਼ਰ ਪਰਭਾਸ਼ਤ ਫੰਕਸ਼ਨਸ ਫਾਰਮੇਟਡ ਆਈ/ਓ ਫੰਕਸ਼ਨ : ਪ੍ਰਿਟਐਫ ਫੰਕਸ਼ਨ (printf function), ਸਕੈਨਐਫ ਫੰਕਸ਼ਨ (scanf function) ਸੀ (C) ਪ੍ਰਗਰਾਮਿੰਗ ਨਾਲ ਸ਼ੁਰੂਆਤ ਕਰਨੀ : ਟਰਬੋ ਸੀ ਨੂੰ ਸਥਾਪਿਤ ਕਰਨਾ, ਪ੍ਰਗਰਾਮ ਦੀ ਕੰਪਾਇਲਿੰਗ ਅਤੇ ਐਗਜ਼ਿਕਿਊਟਿੰਗ

3. **ਕਾਂਸਟੈਂਟਸ, ਵੈਰੀਏਬਲਜ਼ ਅਤੇ ਡਾਟਾ ਟਾਈਪਸ**

ਭੂਮਿਕਾ
ਕਾਂਸਟੈਂਟਸ/ਸ਼ਾਬਦਿਕ : ਸੀ (C) ਕਾਂਸਟੈਂਟ ਦੀਆਂ ਟਾਈਪਸ
ਸੀ (C) ਵੈਰੀਏਬਲਜ਼/ਆਈਡੈਂਟੀਫਾਈਰ ਦੀਆਂ ਟਾਈਪਸ : ਡਿਲੀਮੀਟਰ, ਵੈਰੀਏਬਲਜ਼ ਦਾ ਡਿਕਲੇਰੇਸ਼ਨ ਇਨਿਸ਼ਿਯਲਾਈਜੇਸਨ
ਵੈਰੀਏਬਲ ਵਿਚ ਕਾਂਸਟੈਂਟ ਸਟੋਰ ਕਰਨਾ
ਡਾਟਾ ਟਾਈਪਸ: : ਬਿਲਟ ਇਨ ਡਾਟਾ ਟਾਈਪਸ (ਇੰਨਟੀਜਰ, ਫਲੋਟਿੰਗ ਪੁਆਇੰਟ – ਡਾਟਾ ਟਾਈਪ , ਕਰੈਕਟਰ ਡਾਟਾ ਟਾਈਪ, ਡਬਲ, ਵੋਆਇਡ ਡਾਟਾ ਟਾਈਪ),, ਮੇਨ ਫੰਕਸ਼ਨ ਹੈਡਰ ਟੋਕਨਜ਼ (ਆਈਡੈਂਟਿਫਾਇਰਜ਼), ਕੀ-ਵਰਡਜ਼, ਕਾਂਸਟੈਂਟ, ਓਪਰੇਟਰਸ) : ਕੀ ਵਰਡਜ਼ ਅਤੇ ਆਈਡੈਂਟੀਫਾਇਰਜ਼, ਟਾਈਪ ਮੋਡੀਫਾਇਰ ਜਾਂ ਕੁਆਲੀਫਾਈਰ

4 **<u>ਓਪਰੇਟਰਸ ਅਤੇ ਐਕਸਪ੍ਰੈਸ਼ਨ</u>**

ਭੂਮਿਕਾ
ਓਪਰੇਟਰਸ ਅਤੇ ਐਕਸਪ੍ਰੈਸ਼ਨ : ਐਕਸਪ੍ਰੈਸ਼ਨ, ਬਾਇਨਰੀ ਓਪਰੇਟਰ, ਔਪਰਸ਼ਨਜ਼ ਅਤੇ ਹਿਰੈਚੀਕਲ ਆਰਡਰ (Operations & Hierarchical order) ਰਿਲੇਸ਼ਨਲ ਅਤੇ ਲੋਜੀਕਲ ਓਪਰੇਟਰ: ਲੋਜੀਕਲ ਓਪਰੇਟਰ, ਅਸਾਈਨਮੈਂਟ ਓਪਰੇਟਰ,
ਇਨਕਰੀਮੈਂਟ ਅਤੇ ਡਿਕਰੀਮੈਂਟ ਓਪਰੇਟਰਸ, ਟਰਨਰੀ ਓਪਰੇਟਰ, ਕੌਮਾ ਓਪਰੇਟਰ, ਸਾਈਡਆਫ() ਓਪਰੇਟਰ, ਬਿਟਵਾਈਜ
ਓਪਰੇਟਰ

5. **<u>ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 1)</u>**

ਭੂਮਿਕਾ
ਡਿਸਿਜ਼ਨ ਮੇਕਿੰਗ ਸਟੇਟਮੈਂਟ : ਇਫ ਸਟੇਟਮੈਂਟ (if statement), ਇਫ ਐਲਸ ਸਟੇਟਮੈਂਟ (if else)
ਸਵਿਚ ਸਟੇਟਮੈਂਟ
ਬ੍ਰੇਕ ਸਟੇਟਮੈਂਟ
ਨਿਰੰਤਰ ਸਟੇਟਮੈਂਟ

6. **<u>ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 2)</u>**

ਭੂਮਿਕਾ
ਕੰਟਰੋਲ ਲੂਪ ਸਟਰਕਚਰ : ਵਾਈਲ ਸਟੇਟਮੈਂਟ (While statement), ਡੂ ਵਾਈਲ (do while),
ਫਾਰ ਸਟੇਟਮੈਂਟ ਲੂਪ (For Statement loop)

7. **<u>ਐਰੇਸ (ਭਾਗ 1)</u>**

ਭੂਮਿਕਾ
ਐਰੇ ਦੀ ਡਿਕਲੋਅਰਿੰਗ ਅਤੇ ਇਨਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ : ਇਨਸ਼ਿਯਲਾਈਜ਼ਿੰਗ ਐਰੇਸ

ਕੁਝ ਵਿਸ਼ੇਸ਼ ਨਿਯਮ: ਐਰੇ ਵਿਚ ਡਾਟਾ ਪ੍ਰਵੇਸ਼ ਕਰਨਾ,
ਐਰੇ ਕਾਪੀ ਕਰਨੀ
ਐਰੇ ਦੇ ਮੁੱਲਾਂ ਦੀ ਪਹੁੰਚ ਕਰਨੀ
ਐਰੇ ਐਲੀਮੈਂਟਸ ਦਾ ਪ੍ਰਬੰਧਨ

8. **ਐਰੇਸ (ਭਾਗ 2)**

ਭੂਮਿਕਾ

ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ : ਦੋ ਡਾਈਮੈਨਸ਼ਨਸ ਐਰੇ ਦੀ ਡਿਕਲੇਰੇਸ਼ਨ, ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦੀ ਬਣਤਰ, ਦੋ ਡਾਈਮੈਨਸ਼ਲ ਐਰੇ ਐਲੀਮੈਂਟਸ ਦਾ ਇਨੀਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ, ਦੋ ਡਾਈਮੈਨਸ਼ਲ ਐਰੇ ਸਟੇਟਮੈਂਟ ਦਾ ਇਨੀਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ ਮੈਮਰੀ ਵਿਚ ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਐਲੀਮੈਂਟਸ ਮਲਟੀ ਆਇਮੈਨਸ਼ਨਲ ਐਰੇਸ – ਕੈਰ ਟਾਈਪ: ਮਲਟੀ ਆਇਮੈਨਸ਼ਨਲ ਐਰੇਸ ਦੇ ਐਲੀਮੈਂਟਸ ਤੱਕ ਪਹੁੰਚ, ਕੈਰ ਟਾਈਪ ਮਲਟੀ ਡਾਇਮੈਨਸ਼ਨਲ ਐਰੇ ਦਾ ਇਨਿਸ਼ਯਲਾਈਜੇਸ਼ਨ, ਕੈਰ ਵੱਰਡ ਪ੍ਰੋਸੈਸਿੰਗ ਦੇ ਦੋ ਡਾਇਮੈਨਸ਼ਨਲ ਐਰੇ ਇਕ-ਕੈਰ ਟਾਈਪ ਇਨਪੁੱਟ/ਆਊਟਪੁਟ

ਡੀਡਾਈਨ ਡਾਇਰੈਕਟਿਵ (# define directive)

9. **ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ**

ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ ਬਾਰੇ ਜਾਣਕਾਰੀ
ਡਾਕੂਮੈਂਟਸ ਨੂੰ ਪ੍ਰਿੰਟ ਕਰਨਾ
ਪ੍ਰਿੰਟਿੰਗ ਦੇ ਤਰੀਕੇ ਆਫ਼ਸੈਟ ਪ੍ਰਿੰਟਿੰਗ, ਲੇਜ਼ਰ ਪ੍ਰਿੰਟਿੰਗ
ਫੌਂਟਸ
ਫਰੇਮ
ਪੇਜ ਲੇਆਊਟ
ਡੈਸਕਟਾਪ ਪਬਲੀਸ਼ਿੰਗ ਅਤੇ ਵਰਡਪ੍ਰੋਸੈਸਰ ਵਿਚ ਅੰਤਰ
ਡਾਕੂਮੈਂਟ ਪਲੈਨਿੰਗ
ਮੁੱਖ ਸੂਚਨਾ ਨੂੰ ਖਾਸ ਤੌਰ ਤੇ ਦਿਖਾਇਆ ਜਾਣਾ : ਸਟਾਈਲ, ਮਾਰਜਨ, ਫੁਟਰ, ਫੌਂਟ

ਕੰਪਿਊਟਰ ਸਾਇੰਸ (ਗਿਆਰਵੀਂ ਸ਼੍ਰੇਣੀ)
ਅਗਵਾਈ ਲੀਹਾਂ (ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਆ)

ਸਮਾਂ–3 ਘੰਟੇ **ਅੰਕ –4●**

ਪ੍ਰੀਖਿਆ ਲਈ ਅੰਕ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ:

ਸੈਕਸ਼ਨ – ਏ	ਵਾਇਵਾ– ਵੋਸ	1●
ਸੈਕਸ਼ਨ - ਬੀ	ਰਿਕਾਰਡ ਫਾਇਲ	1●
ਸੈਕਸ਼ਨ – ਸੀ	ਛੋਟੇ ਪ੍ਰੋਗਰਾਮ	2●

1. ਸੈਕਸ਼ਨ – ਏ ਵਿੱਚ ਪ੍ਰੀਖਿਆਰਥੀ ਤੋਂ ਪਾਠ ਕ੍ਰਮ ਵਿੱਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੋ ਦੋ ਅੰਕ ਦਾ ਹੋਵੇਗਾ। ਇਹ ਪ੍ਰਸ਼ਨ ਓਬਜੈਕਟਿਵ ਟਾਈਪ ਜਾਂ ਵਿਆਖਿਆ ਦੱਸਣੀ ਜਾਂ ਕੰਪਿਊਟਰ ਦੇ ਵੱਖ ਵੱਖ ਹਿੱਸਿਆਂ ਅਤੇ ਇਸ ਨਾਲ ਜੁੜੇ ਸਹਾਇਕਾਂ ਦੇ ਬਹੁਤ ਛੋਟੇ ਅਭਿਆਸ ਹੋਣਗੇ। **1×10=10 ਅੰਕ**
2. ਸੈਕਸ਼ਨ – ਬੀ ਵਿੱਚ ਪ੍ਰੀਖਿਆਰਥੀ ਦਾ ਸਲਾਨਾ ਰਿਕਾਰਡ ਚੈਕ ਕੀਤਾ ਜਾਵੇਗਾ। **10 ਅੰਕ**
3. ਸੈਕਸ਼ਨ – ਸੀ ਵਿੱਚ ਪੰਜ ਪ੍ਰਸ਼ਨ /ਪ੍ਰੋਗਰਾਮ ਸੈੱਟ ਕੀਤੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿੱਚੋਂ ਪ੍ਰੀਖਿਆਰਥੀ ਨੂੰ ਚਾਰ ਪ੍ਰੋਗਰਾਮ / ਪ੍ਰਸ਼ਨ ਕਰਨ ਦੀ ਖੁੱਲ ਹੋਵੇਗੀ। ਹਰ ਪ੍ਰੋਗਰਾਮ/ਪ੍ਰਸ਼ਨ ਪੰਜ ਪੰਜ ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ, ਹਰੇਕ ਪ੍ਰੋਗਰਾਮ / ਪ੍ਰਸ਼ਨ ਲਈ ਅੰਦਰੂਨੀ ਅੰਕ ਵੰਡ ਪੇਪਰ ਸੈੱਟਰ ਕਰਕੇ ਦੇਵੇਗਾ। **4×5=2● ਅੰਕ**

<u>ਦੁਹਰਾਈ</u>

ਐਕਸਲ

ਐਚ.ਟੀ.ਐਮ.ਐਲ.

ਮਾਈਕਰੋਸੋਫਟ ਅਸੈਸ : ਡਾਟਾ ਸੋਧਨਾ, ਅਸੈਸ ਡਾਟਾਬੇਸ ਦੇ ਆਬਜੈਕਟ

1. **<u>''ਸੀ'' ਪ੍ਰੋਗਰਾਮ</u>**

ਸਟਰਕਚਰ: ਗਲੋਬਲ ਡਿਕਲੇਰੇਸਨਸ, ਸੀ (C) ਪ੍ਰੋਗਰਾਮ ਦਾ ਕੰਪਾਈਲ ਅਤੇ ਲਾਗੂ ਕਰਨ ਐਡੀਟਰ ਦੀ ਵਰਤੋਂ ਫੰਕਸ਼ਨ: ਬਿਲਟ ਇਨ ਫੰਕਸ਼ਨਸ, ਯੂਜ਼ਰ ਪਰਭਾਸ਼ਤ ਫੰਕਸ਼ਨਸ

ਫਾਰਮੇਟਡ ਆਈ/ਓ ਫੰਕਸ਼ਨ ,ਪ੍ਰੋਗਰਾਮਿੰਗ ਨਾਲ ਸ਼ੁਰੂਆਤ ਕਰਨੀ : ਟਰਬੋ ਸੀ ਨੂੰ ਸਥਾਪਿਤ ਕਰਨਾ, ਪ੍ਰਗਰਾਮ ਦੀ ਕੰਪਾਇਲਿੰਗ ਅਤੇ ਐਗਜ਼ਿਕਿਊਟਿੰਗ, ਇੰਸਟਾਲੇਸਨ, ਓਪਰੇਟਰ

3 **<u>ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 1)</u>**

ਡਿਸਿਜ਼ਨ ਮੇਕਿੰਗ ਸਟੇਟਮੈਂਟ : ਇਫ ਸਟੇਟਮੈਂਟ(if statement), ਇਫ ਐਲਸ ਸਟੇਟਮੈਂਟ (if else)

ਸਵਿਚ ਸਟੇਟਮੈਂਟ

ਬ੍ਰੇਕ ਸਟੇਟਮੈਂਟ

ਨਿਰੰਤਰ ਸਟੇਟਮੈਂਟ !

4. **<u>ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 2)</u>**

ਕੰਟਰੋਲ ਲੂਪ ਸਟਰਕਚਰ : ਵਾਈਲ ਸਟੇਟਮੈਂਟ (While statement), ਡੂ ਵਾਈਲ (do while),

ਫਾਰ ਸਟੇਟਮੈਂਟ ਲੂਪ (For Statement loop)

5. **<u>ਐਰੇਸ (ਭਾਗ 1)</u>**

ਐਰੇ ਵਿਚ ਡਾਟਾ ਪ੍ਰਵੇਸ਼ ਕਰਨਾ

ਐਰੇ ਕਾਪੀ ਕਰਨੀ

ਐਰੇ ਦੇ ਮੁੱਲਾਂ ਦੀ ਪਹੁੰਚ ਕਰਨੀ

ਐਰੇ ਐਲੀਮੈਂਟਸ ਦਾ ਪ੍ਰਬੰਧਨ : ਐਲੀਮੈਂਟਸ ਦਾ ਜੋੜ, ਐਲੀਮੈਂਟਸ ਦਾ ਗੁਣਾਂਕ-ਮੁੱਲ, ਐਲੀਮੈਂਟਸ ਦਾ ਪ੍ਰੋਡਕਟ, ਐਲੀਮੈਂਟਸ ਦਾ ਔਸਤਨ, ਉੱਚਤਮ ਅਤੇ ਨਿਊਨਤਮ ਅੰਕ ਲੱਭਣਾ

8. **<u>ਐਰੇਸ (ਭਾਗ 2)</u>**

ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦੀ ਬਣਤਰ ਅਤੇ ਇਨੀਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ

ਮਲਟੀ ਡਾਇਮੈਨਸ਼ਨਲ ਐਰੇਸ : ਐਲੀਮੈਂਟਸ , ਇਨਿਸ਼ਯਲਾਈਜੇਸ਼ਨ, ਦੋ ਡਾਇਮੈਨਸ਼ਨਲ ਐਰ,

ਇਕ-ਕੈਰ ਟਾਈਪ ਇਨਪੁੱਟ/ ਆਊਟਪੁਟ

9. **<u>ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ</u>**

ਡਾਕੂਮੈਂਟਸ ਨੂੰ ਪ੍ਰਿੰਟ ਕਰਨਾ

ਪ੍ਰਿੰਟਿੰਗ ਦੇ ਤਰੀਕੇ : ਆਫ਼ਸੈਟ ਪ੍ਰਿੰਟਿੰਗ, ਫੁਟਰ ਪ੍ਰਿੰਟਿੰਗ

ਫੌਂਟਸ

ਫਰੇਮ

ਪੇਜ ਲੇਆਊਟ

ਡਾਕੂਮੈਂਟ ਪਲੈਨਿੰਗ

ਮੁੱਖ ਸੂਚਨਾ ਨੂੰ ਖਾਸ ਤੌਰ ਤੇ ਦਿਖਾਇਆ ਜਾਣਾ : ਸਟਾਈਲ, ਮਾਰਜਨ, ਫੁਟਰ, ਫੌਂਟ

D. STRUCTURE OF QUESTION PAPER OF ELECTIVE SUBJECTS

(Theory)

For question paper carrying 30 marks (Theory) each (except those specified at *)

NOTE: The length of the answer to a question for all 11th class vocational stream subjects depends upon the nature of the question. The suggested limit is only a guideline for the students to answer a question in limited space and limited time. This practice will help him in competitive tests.

***SUBJECTS HAVING 80 MARKS THEORY ARE:-**

GROUP	TRADE	SUBJECTS
A) Business & Commerce - Group	1) Accountancy and Auditing	a. Principles of business and Economics
		b. Book Keeping and Accountancy
	2) Insurance	a. Insurance Legislation
		b. Insurance Salesmanship
	3) Exprot Import Documentation	a. Exprot Management
B) Engineering&Techonology Group	4) Engineering Drawing& Drafting	a. Workshop Calculation
	5) Computer Techniques	a. Mathematic and Statistic
C) Humanties & Others Group	6) Commercial Art	a. Technical Theory of Commercial Art

Time: 2 hrs **Theory: 30 Marks**
Time : 3 hrs **Practical: 50 Marks**
CCE: 10 Marks
Total: 90 Marks

Structure of Question Paper

In all, seventeen questions will be set from the prescribed syllabus. The question paper will comprise of three parts (Part-I, Part-II and Part-III). The questions will be evenly distributed from the prescribed syllabus.

Part-I will consist of seven objective type questions carrying 1 mark each. All questions will be compulsory to attempt. The answer of each question should not exceed more than one sentence.

Part-II will consist of eight short answer type questions carrying 3 marks each. Candidate will attempt any six questions out of these. A question may have two or more parts. The answer of each question should not be more than one page of the answer sheet.

Part-III will consist of two questions carrying 5 marks each. Candidate will attempt any one question out of these. The answer of each question should not be more than two pages of the answer sheet.

For question paper carrying 80 marks (Theory) each.

Time: 3 hrs **Theory: 80 Marks**
CCE: 10 Marks
Total: 90 Marks

Structure of Question Paper

In all, thirty three questions will be set from the prescribed syllabus. The question paper will comprise of three parts (Part-I, Part-II and Part-III). The questions will be evenly distributed from the prescribed syllabus.

Part-I will consist of ten objective type questions carrying 2 mark each. All questions will be compulsory to attempt. The answer of each question should not exceed more than one sentence.

Part-II will consist of fifteen short answer type questions carrying 4 marks each. Candidate will attempt any nine questions out of these. A question may have two or more parts. The answer of each question should not be more than one page of the answer sheet.

Part-III will consist of eight questions carrying 6 marks each. Candidate will attempt any four questions out of these. The answer of each question should not be more than two pages of the answer sheet.

Or

In any other case, the structure of question paper having 80 marks theory precedes the syllabus of particular subject.

E. STRUCTURE OF QUESTION PAPER FOR ELECTIVE SUBJECTS (Practical)

For Question Paper carrying 50 marks (practical) each (except those specified at **)

****SUBJECTS HAVING 80 MARKS PRACTICAL ARE:-**

GROUP	TRADE	SUBJECTS
Engineering & Technology	1. Engg. Drawing and Drafting	a. Engineering Drawing
	2. Mechanical Servicing (Genl.)	b. Engineering Drawing
Humanities & Others	3. Commercial Art	a. Commercial Art & Drawing b. Design and Lay-out

Time: 3 hrs **Practical: 50 Marks**

Distribution of marks will be as follows:

(i) Practical note book/sessional work/visits/project work.	5 Marks
(ii) Viva Voce	5 Marks
(iii) Actual Performance	40 Marks

Major Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 25 Marks

Minor Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 15 Marks

For question paper carrying 80 marks (practical) each
(Except those specified at **)

Time: 3 hrs **Practical: 80 Marks**

Distribution of marks will be as follows:

(i) Practical note book/sessional work/visits/project work. 10 Marks
(ii) Viva Voce 10 Marks
(iii) Actual Performance 60 Marks

Major Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 40 Marks

Minor Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 20 Marks

Or

In any other case, the structure of question paper having 80 marks Practical precedes the syllabus of particular subject.

F. GENERAL INSTRUCTIONS TO THE PAPER SETTERS

(Theory)

1. The paper should be strictly from the prescribed syllabus or according to guidelines given under the structure of question paper.
2. The language should be simple and to the mental level of the students.
3. The standardized form of the technical terminology should be used.
4. The question in the paper should be evenly distributed throughout the syllabus.
5. There will be any objective type question like Yes or No, tick or cross, fill in the blanks, multiple choice etc.
6. Due weightage should be given to numerical problems wherever required.
7. Marks for every part/sub-part should be shown on the question paper itself.

PRACTICAL

1. The question paper will be set on the spot by the practical examiner himself.

2. A group of students should be examined in given time.
3. Separate question paper should be set for each group.

G. ON-THE-JOB TRAINING

Time: 3 weeks **M. Marks: 30**

INTRODUCTION:

On-the-job training is an essential component of effective Vocational Education and Training. The Heads of Vocational Schools have to play a vital role in this regard.

IDENTIFICATION OF TRAINING CENTRE:

The Head of the institution will identify the Training Centres in consultation with liaison agencies and local community. Any reputed Industrial Organisation/Workshop/Office/Shop situated in the neighbourhood of the school can be the training centre.

GROUPING OF STUDENTS:

After the identification of Training Centres the Head of school will group the students under the guidance of a group incharge, the concerned vocational master. There should not be more than 10 students in a group.

DURATION:

On-the-job training will be for three weeks in all. **It will be conducted after the completion of the annual Syllabus.** It can be conducted at more than one centre depending upon the facilities available at the training centre/s. The schedule may be framed by the Head of the school in consultation with the competent authority of the training centre/s.

EVALUATION:

The competent authority at the training centre will evaluate the conduct, work, aptitude, gained experience, efficiency etc. of the student and will issue the training certificate on the Performance Sheet.

PREPARATION OF AWARD LIST:

On the basis of the training, certificate marks will be allotted to the student by the group incharge. .

Training certificates of the students should not be sent to the Board. These may issue to each student after the declaration of their result by the Head of School.

H. ELECTIVE SUBJECTS

I. AGRICULTURE GROUP

(i) Horticulture

PAPER-I **FUNDAMENTALS OF HORTICULTURE**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Definition, imporatance and scope of horticulture.
2. Branches of horticulture, classification, distribution of horticulture crops and horticulture zones of India.
3. Climatic factors, plant growth and development including effects of adverse climatic conditions and their management.
4. Soil as a media of plant growth including effects of soil conditions.
5. Propagation-types and methods of propagation, propagation structures, tools and equipment, media and containers.
6. Propagation through seed and factors affecting viability of seeds.
7. Principles of seed production.
8. Nursery raising, preparation of bed, seed sowing, protection, hardeing, lifting and packing of seedlinas.
9. Asexual propagation and its importance, propagation by cutting, layering, grafting, budding and their types.
10. Propagation of plants by specialized structures- bulbs, corms, tubers, rhizomes, runners, slips stolans, suckers and their types.
11. Handling of nursery plants, display, marketing and economics of nursery business.
12. Selection of site, land development including fencing and windbreaks and planting.
13. Nutrition of horticultural crops.
14. Irrigation in horticultural crops.
15. Training and pruning of horticultural crops.
16. Plant protection in horticultural crops.
17. Methods of communication and transfer of technology.

PAPER-I **FUNDAMENTALS OF HORTICULTURE**

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

1. Survey and selection of site for horticultural crops.
2. Study of garden tools and implements.
3. Collection and analysis of soil and water samples.
4. Study of material and plants required for fencing.
5. Visit to nursery and selection of healthy, true to the type planting material.
6. Preparation of nursery beds.
7. Practicing the lifting and transplanting of plants.

8. Study of different types of fertilizers, manures and bio fertilizers.
9. Study of symptoms of deficiency of nutrients in horticultural crops.

10. Methods of irrigation including drip and sprinkler in an orchard.
11. Use of different kinds of mulches in horticultural crops.
12. Training and pruning in horticultural crops.
13. Study of seeds and seed germination including pre-sowing treatments.
14. Study of specialized methods in propagation like, runners, suckers, offshoots, tubes, bulbs and their planting.
15. Propagation through cuttings and layering, leaf shoot, root cuttings, gootee, ground layering using different plant species.
16. Practice of different methods of grafting and budding in roses.

PAPER-II **FRUIT PRODUCTION**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Importance and present status and future scope of fruit industry in India. Nutritive value of fruits. Fruit production as an economic propostion.
2. Classification of fruit crops based on climatic requirements and fruit growing zones in Punjab.
3. Selection of site for fruit crops.
4. Layout and planting systems for fruit crops.
5. Commercial cultivation of major fruit crops with special reference to their origin, climate, soil varieties, propagation, planting, training, pruning nutrition, interculture, irrigation, weed control, plant protection, harvesting, grading, storage and marketing of;

Mango, papaya, sapota, citrus fruits, guava, grape, litchi, ber, pomegranate, amla,

pear, peach phalsa, Mamun

PAPER-II **FRUIT PRODUCTION**
Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

1. Visit to an orchard, study of features and identification of fruits crops.
2. Lay out of orchards by different systems of planting.
3. Digging of pits, refilling the pits for planting of important fruit crops.
4. Raising of seedings of fruit crops.
5. Planting of fruit trees.
6. Methods of training and pruning of fruit crops.
7. Application of manures and fertilizers for fruit crops.
8. Identification and control of insect pest-mango/guava/citrus/pear/peach and ber.
9. Identification and control of diseases in important fruit crops.
10. Study of special problems like malformation in mango/citrus decline.
11. Grading and packaging of fruits.
12. Organoleptic evaluation of cultivars of fruit crops.

PAPER-III **VEGETABLE PRODUCTION**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Importance of vegetables and their role in human diet.
2. Present status and future scope of vegetable production in Punjab.
3. Classification of vegetables based upon climate zone parts used in food, cultural practices.
4. Types and system of vegetable growing including protected cultivation and cropping sequence. Type of vegetable garden, kitchen garden and market gardens.
5. Nursery raising for vegetables crops.
6. Commercial cultivation of the following in respect to climate, soil, varieties, planting method, irrigation, weed control, plant protection, harvesting and grading: Tomato, brinjal, chilli, okra, watermelon, muskmelon, cucumber, gourds, potato, onion, garlic, pea, cauliflower, cabbage, radish, carrot, spinach, lettuce vegetables of local importance.
7. Seed production in important vegetable crops like tomato, cauliflower, chilli, peas, onion, radish, watermelon and potato.

PAPER-III **VEGETABLE PRODUCTION**

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

1. Visit to vegetable farms and identification of vegetable crops.
2. Identification of various vegetable seeds.
3. Lay out and soil sterilization for vegetable nurseries.
4. Use of manure and fertilizers for important vegetable crops.
5. Hardening of nursery seedlings.
6. Study of nutrient deficiency symptoms in important vegetable crops.
7. Interculture operations like hoeing, earthing and staking in vegetables.
8. Weed control in vegetable crops.
9. Identification of important diseases of vegetable and their control.
10. Visit to a vegetable seed production farm and seed processing unit.
11. Grading and packaging of vegetable crops.

(ii) AGRI BUSINESS

PAPER-I **ELEMENTS OF AGRICULTURE**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Definition of agriculture, its scope and importance, common agricultural, horticultural crops, factors affecting crop production.
2. Soil and water in relation to plant growth.
3. Types of soils, soil fertility, saline and alkaline soils.
4. Critical stages of crops for irrigation, methods of irrigation, water conveyance.
5. Characteristic features of rainted and dryland agriculture.
6. Definition of manures and fertilizer, role in crop production.
7. Principles and practices of integrated nutrient management (INM), use of bio-fertilizers.
8. Crop production practices including soil and water requirement of crops selection of crops according to seasons, field and seed bed preparation, seed treatment, sowing, planting and intercultivation practices, weeds and weed management/control.
9. Seed its development and multiplication.
10. Importance of pest and diseases management. Common diseases and pests of important crops. Common insecticides, fungicides, acaricides, rodenticide, nematicides and antibiotics and their uses.
11. Integrated pest and disease management.
12. Familiarization, handling, calibration and use of common farm machinery and implements and safety precautions.
13. Methods of drying-open drying, solar drying, natural drying and mechanical drying.
14. Traditional and modern storage structures. Storage conditions for different agricultural produce and control of stored grain pest.
15. Processing of produce-shelling cleaning, grading, mixing and packaging methods.
16. Role of livestock's and poultry in economy.

PAPER-I **ELEMENTS OF AGRICULTURE**

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

1 Visit to an observatory to familiarize with weather recording instruments.

2 Study of growth characters of important crops.

3 Study of deficiency symptoms of essential plant nutrients.

4 Study of soil types.

5 Site visit to know about the use of sprinkler and drip irrigation systems.

6 Determination of irrigation requirement of crops and efficiency of irrigation.

7 Site visit to watershed development areas. Seed treatment with fungicides and bacterial inoculant.

8 Preparation of compost.

9 Preparation of farm yard manure.

10 Identification of inorganic fertilizers.

11 Top dressing of chemical fertilizers.

12 Foliar application of fertilizers.

13 Preparation of ideal seed bed for sowing.

14. termination of seed germination.

15. Sowing of seeds.

16. Raising of seeding/plant materials.

18. Identification of insects for common crops.

19. Collection and preservation of insects.

21. Identification, collection and preservation of plant specimens infested by common insect/pests and diseases.

20. Preparation of pesticide and fungicide solution of required concentrations and their application.

24. Identification of stored grain pests and their prevention.

22. Study of different types of farms implements and their uses.

23. Calibration of various farm implements/tools.

25. Storage of seeds.

26. Study of different packaging equipment.

PAPER-II **INDTODUCTION TO BUSINESS MANAGEMENT AND COMPUTER APPLICATIONS**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

(A) BUSINESS MANAGEMENT

1. Business - Definition, characteristics, objectives, essentials of a successful business, various forms of business organization (meaning only), classification of business activities-Industry, Commerce, Trade - Aids to Trade, social responsibility of a business.
2. Management - Definition, scope, nature, levels of management and managerial skills.
3. Principles of Management.
4. **Functions of Management**

- Planning - Meaning, types of plans, steps in planning, decision making – meaning, types of decisions, process/steps in decision - making.
- Organisation - Line and staff of organization - meaning.
- Staffing - Manpower planning - meaning, objectives & importance, Recruitment and selection - meaning, Training and development - meaning and difference, need and importance.
- Leading - Meaning, Leadership styles.
- Motivation - Meaning, need and importance.
- Communication – Meaning, types, process and barriers to effective communication.
- Controlling – Meaning, controlling techniques and advantages.

(B) COMPUTER APPLICATIONS

1. Computer Fundamentals

- What is a computer ? Block diagram of a Computer, Characteristics. Types of computers.
- Data representation within computer - Bits, Bytes, EBCDIC, BCD, ASCII, number system.
- Basic structure of computer - Input, Process, Output.
- Memory - RAM, ROM, EPROM, DRAM, CACHE, CDROM.
- Input Devices, Output Devices, Data Storage Devices.
- Computer Languages.
- Operating System- What is an operating system and Types of Operating System.

2. MS-DOS- Internal and External Commands

- **MS-WINDOWS**-Introduction to Windows, Advantages of Windows, Control panel, Assessories, Overview.

3. MS-Office

- MS-WORD- Starting MS-Word, Creating a Document, Operating a Document, Saving a Document, Editing Text, Formatting Text, Viewing Documents,

Formatting Documents, Line spacing Paragraph spacing, Setting Tabs, Indenting Text, Aligning Text, Adding Headers and Footers. Numbering Pages. Inserting a Table, Proofing a Document. Spell-check utility, Printing a Document, Mail Merge, Use of Internet & sending of E-mails.

PAPER-II **INTRODUCTION TO BUSINESS MANAGEMENT AND COMPUTER APPLICATIONS**

Time: 3 hrs **Practical Syllabus** **Practical : 50 Marks**

BUSINESS MANAGEMENT

— Discussion with Agri-busines Managers about their management - one visit

— Discussion with public administrator regarding the functioning of agri-business managers - one visit

— Interviews of agri-business entrepreneurs relating to their social responsibilities. - one visit

— Visit to two agri-business firms to learn about the planning process.

— Interviews of agri-business managers to obtain information on decision-making process. - one visit

— Selection of agri-business organization(s) for acquainting with selection process, training, development system and appraisat policies of personnel in the organization. - three visit

— Interviews of two agri-business entrepreneurs to find out how they motivate their employees. - one visit

— Visit to two agril. farms and interview the farmers about the communication problems they face in procuring agriculture inputs and selling agricultural products/commodities. - two visit

— Visit to two agri-business organizations to study management techniques followed by them. - two visit

— Selection of agri-business organizations to study how computers are used in the business and submit a report about how it differs from using computers in general business. - two visit

COMPUTER APPLICATIONS

- Computer Fundamental - Checking the connectivity, peripherals of computer, booting (startup) the computer system.
- MS-DOS - Execution of internal DOS commands, execution of external DOS commands, making directory, subdirectory using DOS commands, creating, copying, deleting, renaming files and directories using DOS commands, formatting floppy disks, backup commands, making tree structure.
- Windows operation - Using mouse, study of different menus available in windows, creating, copying, deleting and renaming operations through windows.
- MS-Word - Loading a Software, creating and opening a document moving, copying, deleting, making block, undeleting a text and fonts managemnt, printing, spell check, mail merge, export and import utilities.

Paper-III **BOOK KEEPING & FARM PLANNING**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Introduction:

Meaning, nature and scope of accounting. Basic concepts and conventions of accounting principle. Double entry system. Advantages of book keeping and accounting, limitations of accounting.

2. Accounting Records :

Preparation of journal, Ledger, Cash book, types of cash books, Single column cash book; Double column cash book, Triple column cash book, Bank cash book, petty cash book; Practical problems.

3. Subsidiary Books :

Needs and use of subsidiary journal and sub-journals. Purchase book, Trade discount, Sales book, Purchase Returns book, Debit Note, Sales return book, Credit Note, Practical Problems.

4. Final Accounts :

Procedure for preparing Trial balance, final accounts, trading account, Profit & loss account Balance sheet; Practical Problems.

5. Methods of Valuation : Depreciation, methods of computing depreciation.

6. Farm Planning : Budgeting, techniques of farm planning, farm budgeting, steps in farm planning and budgeting, farm plans.

BOOK KEEPING & FARM PLANNING

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

1 Survey of Book-keeping practices followed in Agri-business.
2 Preparation of Journal book.
3 Posting in Ledger.
4 Record of entries in Cash book.
5 Preparation of Petty cash book.
6 Preparation of Purchase book.
7 Preparation of Sales book.
8 Preparation of Purchase return book.
9 Preparation of Sales return book.
10 Preparation of Trial Balance.
11 Computation of Gross profit/Loss.
12 Computation of Net Profit/Loss.
13 Preparation of Balance Sheet.
14 Computation of Depreciation.
15 Preparation of Farm planning.
16 Preparation of budget.

(iii) REPAIR AND MAINTENANCE OF POWER DRIVEN FARM MACHINERY

PAPER-I **BASIC WORKSHOP PRATICES**

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

General

- Imporatance of safety precautions in a workshop.
- Introduction to SI units fundamental and derived units.
- Common workshop hand tools, measuring tools and their application. Spanners, socket set, Allen head key wrenches, pliers, pipe and chain wrenches, punches and screw drivers. Linear measurement tools, angular measurement tools and gauges.
- Properties and uses of common engineering materials such as cast iron, mild steel, high carbon steel, alloy steel, stainless steel, copper, brass, tin, gunmetal, bronze, white metal, alluninium wood, plastic and rubber.
- Measurements of Electical paramities e.g. current, voltage, resistance, Power and Power factor.
- Plumbing : Functions and specifications of common plumbing tools and asseceries (pipe dies, pipe ranches etc.).
- Corrosion and its remedies.

Fitting and Drilling

- Functions and specifications of common handtools such as vices, hammers, files, chisel, reamers, taps and die sets and hand hacksaw.
- Drilling machines - parts and functions. Types of drill bits and applications.

Smithy and Sheet Metal

- Functions and specifications of smithy tools and accessories - blowers, furnace, anvils, swages plates, chisels, swage hammers, tongs, fuller's set, flattener, punches, takes, pokers, shovels and press scales.
- Functions and specifications of common sheet metal tools and accessories - staker, hammers (wooden), snips, punches, grooves and chisels.

Welding

- Arc and Oxy-acetylene welding
- Functions and specifications of Arc welding equipment and accessories - welding transformer, electrodes, electrode holder, cables, cable connectors, cable lug, chipping hammer, earthing clamps, wire brush, helmet, screen safety goggles, hand gloves and apron.
- Methods of arc welding, preparation for welding, proper selection of electrodes adustment/setting of current; welding defects; precautions in welding.

Turning

- Lathe: parts and functions of head-stock, bed, chuck, tail-stock, lead screw, tool post, apron, dead centre, etc.
- Applications of pointed edge, straight edge, sharpened edge, facing, rought, left hand, right hand round nose and knurling tools.
- Different operations performed on a lathe - facing, plain turning, step turning, taper turning, knurling, threading, boring, etc.

Grinding

- Double ended power grinder : parts and functions.
- Composition of grinding wheel material and grinding wheels specifications.

Engineering Drawing

- Recognition of objects from given pictorial view. (Blue Print Reading of Simple assemblies)

PAPER-I **BASIC WORKSHOP PRACTICES**

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

Materials

- Identification of common engineering materials with regard to type, size and specifications- cost iron, mild steel, high carbon steel, alloy steel, stainless steel, copper, brass, tin, gunmetal, bronze, white metal, aluminium, etc.
- Simple demonstration of physical properties of materials malleability, ductility, brittleness, hardness, etc.

Fitting

- Hack sawing of solid and hollow material (pipes), straight and cross filling.
- Preparing jobs involving filling, chipping, drilling and tapping/threading.
- Preparation of a job by fitting a square piece.

Smithy and Sheet Metal

- Preparing jobs involving heating, drawing, upsetting and bending.
- Preparing useful articles involving making, cutting, bending, riverting and soldering. (Ex. Preparing funnel).

Plumbing

- Preparing jobs involving cutting, threading, bending and joining with simple pipe fittings.
- Attending actual jobs of plumbing in institutional areas.

Welding, Arc and OXY acetetyne

- Preparing jobs having butt joint, arc and gas.
- Preparing jobs having lap joint, arc and gas.
- Preparing jobs having T-joing, arc.
- Preparing jobs having corner joint, arc.
- Preparing useful jobs such as tables, stools and racks.

Turning

- Holding a job, its centring and facing; preparing a job involving simple turning, step turning, taper turning threading and knurling.

- Grinding of lathes tools.

Engineering Drawing

- Reading of simple blue print.
- To read given drawing of simple object.

Part-II **IRRIGATION, HARVESTING & TUBEWELL TECHNOLOGY**

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Irrigation and Tubewells :

- Methods of irrigation and laying of irrigation channels and pipes in relation to types of soil and topography of the field.
- Type of Pumps, principles of operation, constructional details and application of centrifugal pumps & submersible pumps.
- Estimation of heads, discharge and power requirement of a pump-set.
- Fundamentals of electricity, units of measurement and different meters.
- Types of diesel engines and electric motors for pumping sets.

  Sefety precautions while handling electrical appliances including motors. Trouble shooting & maintenance of diesel engines.

  Types of tubewells, selection of sites, drilling methods, installation of pumping sets.

  Rain water irrigation

Harvesting :

- Functions and Materials of construction of harvesing devices-sickle, reaper, combine, potato & groundnut digger.

Threshing :

- Functions & materials of construction of wheat thresher, different types of threshing cylinders and their adjustments.
- Safe use of threshers & storage.

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

- Demonstration of different methods of irrigation.
- Identification of different types of pumps and their parts.
- Dismantling & assembling of centrifugal pump.
- Installation of pump, prime mover, fitting of pipes, valves, pulleys and checking for correct alignment; priming, gland packing, operation and trouble shooting of centrifugal pump sets, periodical servicing.
- Dismantling of submersible pump, materials of construction of different components and maintenance.
- Practice in the use of voltmeter, ammeter and megger.
- Introduction to different types of tubewells.
- Diesel engine, operations, adjustment and overhauling.

. Harvesting(1) Demonstration and warking of combine Harvester
(2) Use at Reaper
(3) Working of potato digger (material of construction
(4) Working of groundnut digger (material of construction)

. Threshing (1) Demonstration of working of wheat thresher.

Paper-III **CROP PRODUCTION MACHINERY**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Tillage

- Functions, types and implements for Primary and Secondary tillage.

Primary Tillage

- Mouldboard plough : Types-one way, two way; parts-share, mould board, land side, frog etc. material of construction, accessories and their functions, jointer coulter, furrow wheel; adjustments of plough-horizontal suction and vertical suction; setting of coulter and jointer.
- Disc plough : Types, parts and function-disc, frame, bearing, scraper, adjustment of disc and tilt angles.

Secondary Tillage and Interculture

- Harrows : types; parts, materials of construction and functions, adjustment of gang angle and leveling of harrow.
- Cultivators; types; parts, materials of construction and functions.
- Clod crushers, levellers and bund former: types, parts materials of construction and functions.

- Rotavators, parts, materials of construction and functions and safety measures.
- Zero Tillage.

Seeding Machinery

- Methods of sowing – broadcasting, dibbling, seed dropping behind the plough, drilling hill, dropping, check sowing and transplanting.
- Seed drills; plain drills and seed-cum-fertiliser drills, various parts, materials of construction and their functions; types of seed metering devices, types of furrow openers; ground wheel drive, calibration of a seed drill.
- Planters; types, parts, materials of construction and functions.
- Types of metering devices; setting up of planter for row and plant spacing.
- Working principle of transplants.

Harvesting Machinery

- Reaper windrower.
- Types of tractors and power tiller operated reaper windrowers.
- Constructional details of reaper windrower, unctions of parts and material of constructions and adjustments.
- Safety precautions.
- Common faults and corrective measures.

Combine Harvestors

- Constructional details and functions of different sub-assemblies of tractor power take off shaft (P.T.O.) driven and self-propelled combine harvestors.
- Adjustments in reel,cutter bar, conveyor, threshing unit, separating and cleaning unit, grain augers and begging units; power transmission mechanism, hydraulic and electrical systems.
- Care, maintenance offseason storage and safety precautions.
- Common faults and corrective measures.
- Familiarisation and identification of different sub-assemblies and components, material of construction and functions of combine harvesters.
- Adjustment, care, maintenance and safety precautions.
- Common faults and remedies.
- Straw Reaper

Threshing Machinery

- Types of power threshers, working principles and constructional details.
- Different types of threshing cylinders and their adjustments.
- Types of cleaning & grain handling systems & their adjustments.
- Care, maintenance and safety precautions.
- Common faults and corrective measures.
- Dismantling of power thresher, identification of different components, material of construction, checking of damaged/worn out parts, their reconditioning repair and/or replacement & assembly.
- Installation, adjustment & commissioning of a power thresher.

- Safety precautions.
- Common faults and trouble shooting.
- Plant Protection Equipment (Type of sprayers and dusters), uses and safely precautions.

Paper : III **CROP PRODUCTION MACHINERY**

Time : 3 hrs. **PRACTICAL** **M. Marks : 50**

Tillage and Interculture

- Familiarisation with different agricultural machinery.
- Identification of different part of mould board plough and materials of construction; dismantling of mouldboard plough, reconditioning/replacement of damaged/worm-out parts; assembling of different parts of mould board plough; adjustments of horizontal and vertical sucions; adjustments of depth, width, coulter, jointer and furrow wheel, servicing of mouldboard plough after use.
- Identification of different part of disc plough, materials of construction of various parts; dismantling of disc plough; recontitioning/replacement of damaged/worn-out parts; assembling of different parts of disc plough; adjustments of disc & tilt angles; adjustments of depth, width & furrow wheel.
- Identification of different part of disc-harrows and cultivators, materials of construction of various parts; dismantling reconditioning/replacement of damaged/worm-out parts; assembling and various adjustment.
- Identification of different part of rotavators & rotary tilters, materials of construction of various parts, dismantling of disc plough; reconditioning/ replacement of damaged/worm-out parts; assembling and lubrication, checking of damage to safety guards and their repair.

Seeding and Planting

- Identification of different part of a seed cum ferfiliser drill; materials of construction of various parts; adjustment of furrow opener and reconditioning/replacement of damaged/worm-out parts of the seed-cum-fertiliser drills; dismantling of seed and fertilizer metering mechanisms and study of parts.
- Calibration of a seed-cum-fertiliser drill in a shop; servicing and maintenance after its use.
- Identification of different parts of planters-materials of construction, adjustments of furrow-opener and reconditioning/replacement of damaged /worm-out parts; familiarization with different types of furrow openers, selection of proper seed plates, distance gear and their fitting, adjustment of land markers; servicing and maintenance of after use.
- Familiarsation with transplants.

Reeper Windrower

- Identification of different parts and components and materials of construction of a reaper windrower. Carrying out adjustments of cutter bar, registration and alignment, overload protection safety clutch, operation care and maintenance.

- Dismantling, checking, reconditioning, replacement of different reaper components and assembly.
- Trouble shooting.
- Types of Sprayers and Dusters and precautions to be observed while operating.

Combine Harvestor

Dismantling and identification of different parts of combine Harvestor

Threshing Machinery

- Dismantling and indentification of different parts of power thresher
- Dismantling and identification of different parts of Reapes.

II BUSINESS AND COMMERCE GROUP

(i) OFFICE SECRETARYSHIP
Modern Office Practices - II

Paper-I

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Part I

Unit-I Introduction

Meaning and Evolution of Modern Office. Functions of an Office, Place of an Office in a Modern Business Organization. Concept of Office Management, Departments of a Large Office, Role and Qualities of a Modern Office Manager.

Unit-II Office Machines

Meaning & Relevance of Office Automation

Types of Machines : Typewriter, electronic typewriter, duplicating machines, calculating machines, fax machines, punching card machines, franking machines, cheques writing machines, telephones, telex and teleprinters, envelope addressing machines, zerox machines and other machines of routine character e.g. stapler, envelope opener, punching machines etc. Computer-Hardware (Basics) and Software (MS Office-MS Word, MS Excel, MS Power Point), Types and use of printers, scanners, copies and other appliances.

Part II

Unit-III Office Record Management

Meaning and features of record management, Filling; Charateristics of a good filing system: Classification of records for filling (Alphabetic, Numeric etc.)

Modern methods: vertical, horizontal, lateral and suspension; equipment; types of files; filing routine, disposal of obsolete documents; indexing; importance; types.

Page index; card index; strip index; rotary index; Micro filing; merit and demerits; types roll film, fiche, jackets etc. Meaning of electronic filing, Data Storage Management.

Procedure for Inward and Outward mailing: Diary register, Dispatch register, peon book.

Unit-IV Office Accounting and services

Introduction to elements of book-keeping and accounts, journal, ledger, trial balance. Cash book, petty cash book and their maintenance, Banking operation e.g. types of accounts, opening of account, overdraft, cheques, writing of cheques, crossing of cheques, endorsement of cheques, bank drafts, travelers cheques and withdrawals and deposits in bank accounts.

PRACTICAL

Time : 3 hrs. **M. Marks : 50**

1. Student will be imported practical knowledge regarding basics of computers, operation of office machines.
2. Creating presentation with Power Point, working with slides in Power Point, creating, editing, formatting, Microsoft Word document, Creating Tables in Microsoft word; Creating editing and formatting worksheets in Microsoft Excel, working with data in Microsoft Excel.

SHORTHAND-ENGLISH

Paper-II

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Part I

1. Evolution, development, scope and importance of Shorthand.
2. Consonant-definition, stokes, difference between stroke Chay and Ray, Joining of strokes.
3. Vowels-definition, vowel sounds, places and value of vowel signs.
4. Alternative signs of the consonant R & H. Value of H tick and H dot.
5. Use of Diphthongs, Triphones and their signs.

Part-II

6. Abbreviated W (semi circle).
7. Gramalogues, phraseography
8. Circle S and Z, sw,ss,sz, loop st & str.
9. Use of initial and final hooks, alternative signs of hooked strokes, circle and loop with initial and final hooks- 'shun' and 'sh' upward.
10. Halving Principle and doubling principle.

SHORTHAND-ENGLISH
Practical

Time : 3 hrs. **M. Marks : 50**

1. Students are to pick up a speed of 60W.P.M. They will be dictated a Para of 150 words, they are to franscribe it within 15 minutes on type writer.

2. Students will be dictated another Para of 150 words which they are to transcribe within 15 minutes on type writer.

3. Sessional work-A file of at least 100 pages will be prepared by the students during the session.

ਪੇਪਰ–II **ਸ਼ਾਰਟਹੈਂਡ–ਪੰਜਾਬੀ**

ਪਾਠ–ਕ੍ਰਮ

ਸਮਾਂ : 2 ਘੰਟੇ **ਲਿਖਤੀ ਪ੍ਰੀਖਿਆ** **ਲਿਖਤੀ : 3● ਅੰਕ**
ਸੀ. ਸੀ. ਈ. : 1● ਅੰਕ
ਪ੍ਰਯੋਗੀ : 5● ਅੰਕ
ਕੁੱਲ : 9● ਅੰਕ

ਭਾਗ–I

1. ਸ਼ਾਰਟਹੈਂਡ ਦੀ ਉੱਤਪਤੀ, ਵਿਕਾਸ, ਖੇਤਰ ਅਤੇ ਮਹੱਤਤਾ।
2. ਵਿਅੰਜਨ–ਪਰਿਭਾਸ਼ਾ, ਵਿਅੰਜਨ ਰੇਖਾਵਾਂ, ਚ/ਰ ਵਿੱਚ ਅੰਤਰ, ਸਟਰੋਕਾਂ ਦਾ ਆਪਸ ਵਿੱਚ ਜੋੜਨਾ।
3. ਸਵਰ–ਪਰਿਭਾਸ਼ਾ, ਭਾਰੀਆਂ ਤੇ ਹਲਕੀਆਂ ਸੁਰਾਂ, ਪਹਿਲੇ, ਦੂਜੇ ਅਤੇ ਤੀਜੇ ਸਥਾਨ ਦੇ ਸਵਰ ਚਿੰਨ੍ਹਾਂ ਦੀ ਵਰਤੋਂ, ਲਾਈਨ ਅਨੁਸਾਰ ਸ਼ਬਦਾਂ/ਸਟਰੋਕਾਂ ਦਾ ਲਿਖਣ ਸਥਾਨ।
4. ਬਦਲ ਰੇਖਾਵਾਂ–ਰ/ੜ, ਲ, ਹ, ਵਿਅੰਜਨ ਰੇਖਾਵਾਂ ਦੇ ਬਦਲਵੇਂ ਰੂਪ, 'ਹ' ਟਿੱਕ ਅਤੇ 'ਹ' ਡਾਟ (ਬਿੰਦੀ)।
5. ਸੰਯੁਕਤ ਸਵਰ, ਵਿਸ਼ਰਾਮ ਚਿੰਨ, ਬਿੰਦੀ, ਟਿੱਪੀ ਦਾ ਪ੍ਰਯੋਗ।

ਭਾਗ– II

6. 'ਵ' ਲਈ ਅੱਧਾ ਚੱਕਰ 9 (ਸੈਮੀ–ਸਰਕਲ)।
7. ਸ਼ਬਦ ਚਿੰਨ੍ਹ, ਵਿਸ਼ਰਾਮ ਚਿੰਨ, ਬਿੰਦੀ, ਟਿੱਪੀ ਦਾ ਪ੍ਰਯੋਗ।
8. ਛੋਟਾ/ਵੱਡਾ ਚੱਕ/ਲਘੂ ਦੀ ਵਰਤੋਂ ਅਤੇ ਜਾਣਕਾਰੀ।
9. ਆਰੰਭਕ ਅਤੇ ਅੰਤਮ ਹੁੱਕਾਂ ਦਾ ਪ੍ਰਯੋਗ, ਹੁੱਕ ਲੱਗੀਆਂ ਸਟਰੋਕਾਂ ਦੇ ਬਦਲਵੇਂ ਰੂਪ, ਆਰੰਭਕ ਤੇ ਅੰਤਮ ਹੁੱਕਾਂ ਨਾਲ ਚੱਕਰ ਦੇ ਲੂਪ ਦੀ ਵਰਤੋਂ। ਸ਼ਨ ਹੁੱਕ
1●. ਵਿਅੰਜਨ ਰੇਖਾਵਾਂ ਦਾ ਅੱਧ ਕਰਨ ਅਤੇ ਦੁੱਗਣਾ–ਕਰਨ ਦਾ ਸਿਧਾਂਤ।

ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਆ

ਸਮਾਂ : 3 ਘੰਟੇ **ਕੁੱਲ ਅੰਕ : 5●**

1. 15● ਸ਼ਬਦਾਂ ਦਾ ਇੱਕ ਪੈਰਾ, 6● ਸ਼ਬਦ ਪ੍ਰਤੀ ਮਿੰਟ ਦੀ ਰਫ਼ਤਾਰ ਨਾਲ (ਢਾਈ ਮਿੰਟਾਂ ਵਿੱਚ) ਲਿਖਵਾਇਆ ਜਾਵੇਗਾ। ਇਸ ਦਾ ਲਿੱਪੀ ਅੰਤਰਣ ਟਾਈਪ ਮਸ਼ੀਨ ਰਾਹੀਂ 15 ਮਿੰਟ ਵਿੱਚ ਕਰਨਾ ਹੋਵੇਗਾ।
2. 15● ਸ਼ਬਦਾਂ ਦਾ ਇੱਕ ਹੋਰ ਪੈਰਾ, 6● ਸ਼ਬਦ ਪ੍ਰਤੀ ਮਿੰਟ ਦੀ ਰਫ਼ਤਾਰ ਨਾਲ ਲਿਖਵਾਇਆ ਜਾਵੇਗਾ। ਪ੍ਰੀਖਿਆਰਥੀ ਇਸ ਦਾ ਵੀ ਲਿੱਪੀ ਅੰਤਰਣ ਟਾਈਪ ਮਸ਼ੀਨ ਰਾਹੀਂ 15 ਮਿੰਟਾਂ ਵਿੱਚ ਮੁਕੰਮਲ ਕਰਣਗੇ।
3. ਸਿਖਲਾਈ ਦੌਰਾਨ ਵਿਦਿਆਰਥੀ ਵਲੋਂ ਸ਼ਾਰਟਹੈਂਡ ਲਿਖੀ ਨੋਟ–ਬੁੱਕ ਅਤੇ ਟਾਈਪ ਮਸ਼ੀਨ ਦੁਆਰਾ ਲਿੱਪੀ ਅੰਤਰਨ ਕੀਤੇ ਕੰਮ ਦੀ ਘੱਟੋ–ਘੱਟ 1●● ਪੰਨਿਆਂ ਦੀ ਫਾਈਲ ਤਿਆਰ ਕੀਤੀ ਜਾਵੇ।

Paper-III **TYPEWRITING-ENGLISH**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

Part-I

1. Type-writer-Introduction, importance; types-standard ad portable.
2. Care and upkeep of the typewriter, instruments for removing minor faults of typewriter, typewriter accessories.
3. Essential parts of typewriter and their functions.
4. Ribbon-Introduction. Need of changing ribbon,method of changing ribbon, care of ribbon.
5. Typing-Introduction, sifting posture, insertion of paper, fixing margins.
6. Methods of typing-touch and sight system.**Part-II**
7. Key-board practice, keyboard structure, different keys.
8. Speed development and importance of accuracy in typing.
9. Punctuations and their use.
10. Errors and omissions in typing and their rectification.
11. How to type general letters/applications for different posts. Different forms of letters-private and government.

Practical

Time : 3 hrs **M. Marks : 50**

1. Students are to pick up speed of 25 W.P.M. A para of 250 words will be given to students which they are to typed in 10 minutes.
2. Typing a letter or application of at least 200 words for a post in 30 minutes.
3. Sessional work. A file of at least 100 pages will be prepared by students during the session.

ਪੇਪਰ-III **ਟਾਇਪ ਰਾਇਟਿੰਗ-ਪੰਜਾਬੀ**

ਸਮਾਂ : 2 ਘੰਟੇ **ਲਿਖਤੀ ਪ੍ਰੀਖਿਆ** **ਲਿਖਤੀ : 3● ਅੰਕ**

ਸੀ. ਸੀ. ਈ. : 1● ਅੰਕ

ਪ੍ਰਯੋਗੀ : 5● ਅੰਕ

ਕੁੱਲ : 9● ਅੰਕ

ਭਾਗ-I

1. ਪੰਜਾਬੀ ਟਾਈਪ ਮਸ਼ੀਨ ਨਾਲ ਜਾਣ-ਪਛਾਣ, ਮਹੱਤਤਾ, ਮਸ਼ੀਨਾਂ ਦੀਆਂ ਕਿਸਮਾਂ-ਸਟੈਂਡਰਡ, ਪੋਰਟੇਬਲ।
2. ਟਾਈਪ ਮਸ਼ੀਨ ਦੀ ਸੰਭਾਲ, ਸਫਾਈ ਛੋਟੇ-ਮੋਟੇ ਨੁਕਸ ਦੂਰ ਕਰਨ ਲਈ ਸਾਜ਼ੋ-ਸਮਾਨ (ਔਜ਼ਾਰ)।
3. ਟਾਈਪ ਮਸ਼ੀਨ ਦੇ ਮੁੱਖ ਭਾਗ ਤੇ ਉਹਨਾਂ ਦੀ ਵਰਤੋਂ।
4. ਰਿਬਨ-ਜਾਣ-ਪਛਾਣ, ਬਦਲਣ ਦੀ ਲੋੜ, ਵਿਧੀ ਤੇ ਸਾਂਭ-ਸੰਭਾਲ।
5. ਟਾਈਪ ਕਰਨ ਸੰਬੰਧੀ ਆਮ ਵਾਕਫੀ, ਬੈਠਣ ਦਾ ਢੰਗ, ਕਾਗਜ਼ ਚੜਾਉਣਾ, ਹਾਸ਼ੀਆ ਸੈਟ ਕਰਨਾ।
6. ਟਾਈਪ ਕਰਨ ਦੀਆਂ ਵਿਧੀਆਂ, ਪ੍ਰਤੱਖ ਅਤੇ ਛੋਹ ਪ੍ਰਣਾਲੀ।

ਭਾਗ-II

7. ਕੀ-ਬੋਰਡ ਅਭਿਆਸ- ਕੀ ਬੋਰਡ ਢਾਂਚਾ, ਵੱਖ-ਵੱਖ ਕੀਜ਼ (Keys)।
8. ਸਾਫ, ਸ਼ੁੱਧ ਅਤੇ ਤੇਜੀ ਨਾਲ ਟਾਈਪ ਕਰਨਾ।
9. ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹ ਅਤੇ ਉਹਨਾਂ ਦਾ ਟਾਈਪਿੰਗ ਵਿੱਚ ਪ੍ਰਯੋਗ।
1●. ਅਸ਼ੁੱਧੀਆਂ, ਭੁੱਲਾਂ ਅਤੇ ਉਹਨਾਂ ਦਾ ਸੁਧਾਰ।
11. ਆਮ ਜੀਵਨ ਵਿੱਚ ਕੰਮ ਆਉਣ ਵਾਲੇ ਬਿਨੈ-ਪੱਤਰ, ਵੱਖ-ਵੱਖ ਅਸਾਮੀਆਂ ਲਈ ਭੇਜੇ ਜਾਣ ਵਾਲੇ ਬਿਨੈ-ਪੱਤਰ, ਨਿੱਜੀ ਅਤੇ ਸਰਕਾਰੀ ਪੱਤਰਾਂ ਦੇ ਵੱਖ-ਵੱਖ ਨਮੂਨੇ।

ਪ੍ਰੈਕਟੀਕਲ

ਸਮਾਂ : 3 ਘੰਟੇ **ਵੱਧ ਤੋਂ ਵੱਧ ਅੰਕ : 5●**

1. ਪੰਜਾਬੀ ਟਾਈਪ- ਪ੍ਰੀਖਿਆ ਲਈ 25● ਸ਼ਬਦਾਂ ਦਾ ਇੱਕ ਪੈਰ੍ਹਾਂ ਦਿੱਤਾ ਜਾਵੇਗਾ, ਜਿਸ ਨੂੰ 1● ਮਿੰਟਾਂ ਵਿੱਚ 25 ਸ਼ਬਦ ਪ੍ਰਤੀ ਮਿੰਟ ਦੀ ਰਫਤਾਰ ਨਾਲ ਟਾਈਪ ਕਰਨਾ ਹੋਵੇਗਾ।
2. ਵੱਖ-ਵੱਖ ਅਸਾਮੀਆਂ ਲਈ ਭੇਜਿਆ ਜਾਣ ਵਾਲਾ ਬਿਨੈ-ਪੱਤਰ ਜਾਂ ਆਮ ਜੀਵਨ ਵਿੱਚੋਂ ਲਿਖਿਆ ਜਾਣ ਵਾਲਾ ਘੱਟੋ-ਘੱਟ 2● ਸ਼ਬਦਾਂ ਦਾ ਸਧਾਰਣ ਪੱਤਰ ਦਿੱਤਾ ਜਾਵੇਗਾ। ਜਿਹੜਾ ਪ੍ਰੀਖਿਆਰਥੀ 3● ਮਿੰਟਾਂ ਵਿੱਚੋਂ ਟਾਈਪ ਕਰੇਗਾ।
3. ਸਾਲ ਦੌਰਾਨ ਵਿਦਿਆਰਥੀ ਵੱਲੋਂ ਟਾਈਪ ਕੰਮਾਂ ਦੀ ਘੱਟੋ-ਘੱਟ 1●● ਪੰਨਿਆਂ ਦੀ ਫਾਈਲ ਤਿਆਰ ਕੀਤੀ ਜਾਵੇ।

(ii) ACCOUNTANCY & AUDITING

Paper-I **Modern Office Practices**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

Part-A

Unit-I Introduction

- Meaning and Evaluation of Modern Office. Functions of an Office, Place of an office in a modern Business organization. Concept of Office Management, Department of a Large Office, Role and Qualities of a Modern Office Manager.

Unit-II Office Machines

Meaning & Relevance of Office Automation

Types of Machines: Typewriter, electronic, typewriter duplicating machines, calculating machines, punching card machines, franking machines, cheque writing machines, telephones, telex and teleprinters, envelope addressing machines, zerox machines and other machines of routine character e.g. stapler, envelope opener, punching machines etc. Computer-Hardware (Basics) and Software (MS Office-MS Word, MS Excel, MS Power Point), Types and Use of Printers, Scanners, Copies and other appliances.

Part-B

Unit-III Office Communication

Meaning and Importance of Effective Communication.

Ways of Communication: Verbal (Written, spoken) and non-verbal communication, Internal and External Communication - Their importance in different setting and their disadvantages.

Tools of Communication : Letter, Telephone, Extension PBX, Intercom, facsimile, e-mail, video conferencing, etc.

Postal Services: Different modes of sending letters, parcels, telegrams and packets, Courier, Speed post.

Unit-IV Office Record Management

Meaning and features of record managemnt, Filling : Characteristics of a good filling system: classification of records for filling (Alphabetic, Numeric, etc.) Modern methods; vertical, horizontal, lateral and Suspension; equipment; types of Files, filling routine; disposal of obsolete documents; indexing, importance, types-page index; card index; strip index; rotary index, Micro filling merit and demerits; types roll film, fiche, jackets, etc. Meaning of electronics filing, data storage management.

PRACTICAL

Time : 3 hrs **M. Marks : 50**

Student will be impared a practical knowledge regarding basics of computers, Operation of Scanner, Printer, Photocopiers, fax Machines and other office application Communication skills (Resume writing and applications of jobs). Creating presentation with Power Point, working with slides in Power Point; Creating, editing, formatting Microsoft Word document, Creating Tables in Microsoft word, Creating editing and formatting worksheets in Microsoft Excel, working with data in Microsoft Excel.

Paper II **PRINCIPLES OF BUSINESS AND ECONOMICS**

Time: 3 hrs **Theory** **Theory: 80 Marks**
Syllabus **CCE : 10 Marks**
Total: 90 Marks

Part A

Principle of Business **Marks : 40**

(i) Business-Definition, its nature, functions and importance. Component of Business-Commerce Industry and Trade.

(ii) Forms of Organizations : Sole Trader, Partnership and Joint Stock Company, their features, advantages and disadvantages.

(iii) Methods of Buying and Selling, Conditions of Purchase and Sale.

(iv) Functions and Services of Whole sellers and Retailers, Direct Marketing, Tele Marketing, Internet Marketing.

(v) Meaning of Bank, Functions of a bank, types of bank accounts, cheques, drafts, bills of exchange and promissory notes.

(vi) Importance of transport; merits and demerits of different modes of transport.

(vii) Communication : postal, telegraph and recent trends in communication, fax, internet, e-mail, video-conferencing.

Part B

Economics **Marks : 40**

(i) Definition and scope of Economics, the economic activities of man, subject matter of economics, fundamental concepts - wealth, goods,utility, value and price, consumption, human wants and their satisfaction, laws of diminishing and equi-marginal utility, demand, law of demand and elasticity of demand. Supply, law of supply and elasticity of supply.

(ii) Production: Meaning and factors of production; Land and its productivity, Labour; Meaning, features of labour, division of labour, efficiency of labour, mobility of labour, Capital : Meaning and functions; Entrepreneurship: Meaning, features and significance.

PAPER-III **BOOK KEEPING AND ACCOUNTANCY**

Time: 3 hrs **Theory** **Theory: 80 Marks**
Syllabus **CCE : 10 Marks**
Total: 90 Marks

PART-A

Unit I **Introduction to Accounting**

- Accounting Meaning, Accounting as source of information, internal and external users of accounting information and their needs, Advantages and limitations of Accounting. Difference between book-keeping and Accountancy.
- Basic Accountancy terms - Asset, Liability, Capital, Expense, Income, Expenditure, Revenue, Debtor, Creditor, Goods, Cost, Gain, Stock, Purchase, Sale, Loss, Profit, Voucher, Discount : Cash and Trade discount, Transactions.

Unit II **Recording Businses transactions**

- ❖ Voucher and Transactions : Origin of Transactions-Source Documents and Vouchers, Preparation of Vouchers, Accounting Equation Approach-Meaning and Analysis of transactions using Accounting equations, Rules of Debit and Credit.
- ❖ Recording of Transactions : Books of original entry : Journal, Special Purpose Books (a) Cash Books-Simple, Cash book with Bank column and Petty Cash book, (b) Purchase Book (c) Sales Book (d) Purchase Returns Book (e) Sale Returns book (f) Bills Receivable Book (g) Bills Payable Book.

Unit III **Trial Balance and Rectification of Errors**

- ❖ Trial Balance : Meaning, Objective, Advantages and Methods of preparation.
- ❖ Errors : Types of Errors, Errors affecting Trial Balance, Errors not affecting Trial Balance.
- ❖ Detection and Rectification of Errors (One sided and two sides); Use of suspense Account.

Unit IV **Bank Reconciliation Statement**

- ❖ Bank Reconciliation Statement: Meaning, Need and Preparation Correct Cash Balance.

PART-B

Unit V **Accounting for Bills of Exchange**

- ❖ Bills of Exchange and Promissory Note : Definition, Features, Parties, Specimen and Distinction.
- ❖
- ❖
- ❖ Important Terms : Term of Bill, Concept of Accommondation Bill, Days of Grace, Date of Maturity, Bill at Sight, Bill After Date, negotiation, Endorsement, Discounting of Bell, Dishonour, Retirement and Renewal of a Bill, Insolvency of a Acceptor.
- ❖ Accounting treatment of Bill Transactions.

Unit VI **Depreciation of Assets.**

- ❖ Depreciation : Meaning and need for charging depreciation, Factor affecting Depreciation, Methods of Depreciation-Straight Line Method, Written Down Value Method (Excluding change in method), Method of Recording Depreciation charging to Assets Account, Treatment of Disposal of Assets.

Unit VII **Financial statements**

- ❖ Financial Statements : Meaning and Objectives.
- ❖ Distribution between Capital and Revenue Expenditure.
- ❖ Balance Sheet : Need, Grouping, Marshalling of Assets and Liabilities, Vertical Presentations of Financial Statements.
- ❖ Adjustments of Preparation of Financial Statements with Respect to Closing Stock, Outstanding Expenses, Prepaid Expenses, Accrued Income, Income Received in Advance, Depreciation, Bad Debts, Provision of Doubtful Debts, Provision of Discount on Debtors, Manager's Commission.
- ❖ Preparation of Trading and Profit & Loss Account and Balance Sheet of Sole Proprietorship.

Unit VIII **Auditing**

- Origin of Auditing : Meaning and definition of Auditing : Function and objectives of Auditing.
- Qualities of an Auditor: Scope of Auditing; Advantages and Limitations of Auditing; Auditing in India.

(iii) PURCHASING AND STORE KEEPING
PAPER I: ELEMENTS OF PURCHASING

Time: 2 hrs	**Theory Syllabus**	**Theory: 30 Marks** **CCE : 10 Marks** **Practical : 50 Marks** **Total: 90 Marks**

UNIT-I: PRODUCT
Time, place, form and possession utilities-Competitive and complementary products.

UNIT-II: MARKET
Essence of Market and Marketing-Law of demand and supply-off and peak seasons.

UNIT-III: PURCHASING
Purchase Organization, Purchase Functions, Principals of purchasing, Methods of Purchasing, Purchase Routine, Value Analysis, Terms of Trade, Quantity Discount, Ethics of Purchase-Principle and standard of purchase practice.

UNIT-IV: PURCHASE BUDGET
Meaning-Importance-control of purchases-Factors governing a budget-Techniques of drawing up a budget-Budget preparation.

UNIT-V: CHANNEL OF DISTRIBUTION
Channel of Distribution : Wholesaler, retailers and their kinds.

PAPER I : ELEMENTS OF PURCHASING
PRACTICALS AND PROJECT WORK

Time:3 hrs **Practical : 50 Marks**

1. Conduct a market survey through case study and questionnaire pertaining to local market for purchase of locally produced/distributed products.

2. Designing and filling up of Performa such as purchase requisitions, eqnurity forms, comparative statements, purchase order.
3. Checking of invoices, bills with goods received note and/or inspection report.
4. Preparation of purchase budget of your class for total books and stationary requirements. (Actual purchasing and distribution to be encouraged).
5. Purchase class-room furniture-Sourcing, obtaining, quotations, negotiations, selecting suppliers and placing a purchase order.

PAPER II : ELEMENTS OF STORRKEEPING

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

UNIT-I: STOREKEEPING
Meaning, Objectives, Functions, Importance, Storekeeper Role, qualifications, duties and responsibilities.

UNIT-II: STORE HOUSE
Location and layout- Types, Security measures-Custody of Keys-Movements of person and material-Marking the stores-Statutory regulations-safety measures-storage equipment-materials handling equipments-cost in selection of storage and materials handling equipments, care of equipments, Factors in installation of equipments, Importance of materials handling, Elements of material handling cost.

UNIT-III: RECEIPT OF MATERIALS
Receipt of materials, Receipt procedure, Dispatch, Inspection at source, Binning, Placing and Indexing, maintaining and updating of stock ledger, Packages and their kinds.

UNIT-IV: INSPECTION, PRESERVATION AND ISSUE OF MATERIALS
Inspection its meaning & importance, advantages of Inspection, Inspection of quality& quantity, Inspection personnel's. Inspection results and action thereon. Preservation-its meaning and importance. Preservation of materials in storeroom, Issue of materials, Issue procedure, Issue documents.

UNIT-V: IDENTIFICATION OF STORES
Need and importance, Kinds of materials, Codification of materials, Codification System-Alphabetical, Numerical, Alpha number Stores Vocabulary, Marking of Stores, Colour Marking.

PAPER II ELEMENTS OF STOREKEEPING

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

1. Sketch a layout of a store/ration shop clearly identifying and showing different elements, e.g. exits, fire extinguishers, allotment of areas etc.
2. Set up a lay out for storing school items/kitchen items/inflammatory items.
3. Designing and filling up proformas used in a store house.
4. Codification and marketing of items under No. 2.
5. Visit to a store house and report there on (1) store room operation; (2) Material handling equipment; (3) Receipt and issue procedure and (4) Maintenance of bind cards.

PAPER III : GENERAL COMMERCIAL KNOWLEDGE

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

UNIT-I: PUBLIC RELATIONS
Objectives of Public Relations (PR), Need and Importance of PR, Working of PR Deptt., Promotional PR-in the context of Purchasing –Ways to improve PR-Vendor-buyers, meets

Communications-Need and Importance, Modes including electronic communication

UNIT-II: TRANSPORTATION
Different modes of transport, their suitability, freight, Tax Rules, Documents relating to transportation, Delivery of consignments and settlement of claims.

UNIT-III: INSURANCE
Elements of General Insurance, Important types of Marine, Fire and Transit Insurance.
Insurance Rules-Rules pertaining to Fire, Marine, Transport and Storage Insurance.

UNIT-IV: BANKING SERVICES
Banks and Type of Banks, Operation of various kinds of accounts, Procedure of Overdraft and Other Types of Loans, Negotiable Instruments, Meaning of cheques, Bill of exchange and elementary Knowledge of other instruments, Mode of remittance, Demand Draft(DD), Mail Transfer, Telegraphic Transfer and Pay Order.

UNIT-V: BUSINESS CORRESPONDENCE
Layout and essentials of a good business letter, correspondence relating to Inquiry, Quotation, order, cancellation of order, Complaints and settlements of claims; Correspondence relating to Banking Operation including request for overdraft facility, Correspondence relating to settlement of insurance claims.

PAPER III: GENERAL COMMERCIAL KNOWLEDGE

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

Postal information: Registered letter, recorded letters, V.P.P., registered parcel, book post, money orders, telegram, fax, fillip up the proformas and actually handling the activities.

1) **Banking Services:** Saving account, Recurring Deposit, Current account, Fixed Deposit, withdrawals, pay-in-slip, cheques, demand draft-filling up the proforma and actually opening one or two accounts, withdrawing and getting a draft.

2) Converse with your teacher and class mates on a given topic and prepare a report thereon.
3) Filling–up of a insurance declaration form.
4) Draft letters on all business matters as asked by your teacher.

(iv) TRAVEL AND TOURISM TECHNIQUES

PAPER I **ELEMENTS OF TOURISM**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Introduction: Meaning of tourism, leisure, recreation, Tourist, Traveller, Transit, Pilgrim, Visitor, explorer; Definition of domestic and international tourists, Rome Declaration of 1963, Declaration of 1991; Forms of Tourism – inbound, outbound, domestic, international; Advantages and disadvantages of tourism.

Tourism Industry: Nature and characteristics: components of tourism industry i) Tourism attraction, ii) Accommodation, iii) Catering, iv) Shopping, v) Entertainment, vi) Infrastructure, vii) Hospitality, viii) Transport, ix) Punjab Tourism development corporation, x) CITCO.

Tourism Organization: Role and function of Government and tourist Boards, ITDC, State Government Tourist Departments and Tourism Corporation; National Trade Associations and International Organizations: WTO, Pacific Asia Travel Association (PATA) IATA, (Indian Association of Tour Operators, Travel Agent's Association of India (TAAI) Federation of Hotel & Restaurant Association of India, Adventure tour Operators Association.

Tourist Motivation: Determinants and motivations of tourism demand: Factors stimulating growth of tourism, types of motivation: Physical, Cultural, Business, Interpersonal, visiting Friends and Relatives (VFR); inference of Supply.

Tourism Marketing: Meaning and role of tourism marketing, Difference between selling and marketing; Special features of tourism marketing; Marketing concepts, Elements of marketing- Product Promotion, Physical distribution and Price.

PAPER I: ELEMENT OF TOURISM

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks:50**

1) Visit to the local tourism department office of your state to know the demand, infrastructural facilities, types of tourists visiting different places and prepare a report.
2) Make a survey of any 5 tourists visiting your state, to know about their perceptions about availability of accommodation, transportation and other infrastructural facilities and prepare a report.
3) Visit to travel agency/ tour operator to know about the motivation of different types of tourists visiting different places.
4) Visit to Railway Station/Airport to find out different packages offered to promote tourism and prepare a report.
5) Visit to tourism department of your state to find out the tourist facilities available.
6) Preparation of a project report on travel destinations covering history.
7) Collection of advertisements from newspapers, magazines and making an analysis of the same (regarding Tourism).

PAPER II: TRAVEL AGENCY AND TOUR OPERATIONS

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

Introduction Travel agencies and Tour Operators- meaning role and future prospects types: Department and organizational setup: Linkages and arrangements with hotels, Airlines and transport agencies and other segments of tourism industry: Travel terminology: current.

Setting up Travel Agency: Types of organizations- Proprietorship, Partnership, Private limited and public limited company: Procedure for approval of travel agents, Tour operators by Department of tourism, GOI, IATA rules and regulations, Basis of approval of a Travel Agency; Fiscal and non- fiscal incentives available to branch agencies and tour operators.

Role & Functions: Role & functions of travel agents and tour operators: Providing travel information and counselling to the tourists, Reservation (both air transport & accommodation), documentation: passport, VISA, handling business & corporate clients, handling conferences & conventions, incentive tours.

Travel Terminology: Current and popular travel trade abbreviation and other terms in Air, Rail, Road and Sea travel; Indian Airlines, Indian Railways; use of travel manuals- Railway timetable, ABC, TIM, Air Tariff Manual, Large Tariff Manual.

Air Ticketing: Basics of Air ticketing (domestic and international); Types of fares, Details of ticket, procedure for booking and cancellation. Familiarization with travel related foreign exchange regulations: Rules governing working of basic fares; Extra mileage percentage, Extra mileage percentage table excretion fares, Special fares from India; Baggage rules; Coding, decoding; Time differentials; GMT; CRS; Out bound Tours working of package programmes. Travel Related Documents: Visa, ITC, Health requirements, RBI regulations, Passport.

Tour Costing: Concept and types of package tour, itinerary preparation and techniques, handling of tour file: costing of tour, charter operations documentation for surface transport, contract carriage permits, state carriage, All India Tourist Permit, taxes, registration, license, fitness certificate.

PAPER II: TRAVEL AGENCY AND TOUR OPERATIONS

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Max Marks: 50**

1) Visit to the office of a travel agency firm to study its operations and understand its organization and role and prepare a report.
2) Visit to a railway station to study the procedure for booking, cancellation of tickets etc. and prepare a report.
3) Practical exercises/ field visits to know the procedure for booking of accommodating in a hotel for a tourist.
4) Visit to the passport office to learn the procedure of obtaining passport for a tourist.
5) Visit to the office of an Airline/ Travel agency to study its workings in respect of issuance and cancellation of Air tickets and the concessions given if any to promote tourism.
6) Exercises in reading time table to know the types of trains, Class of travel, Types of fare and use of railway time table.
7) To visit the office of Regional Transport office to learn the registration procedure of different types of vehicles the formalities involved etc.
8) Practical exercises in making service an accommodation vouchers for tour operators.
9) Field visits for the collection of formats related to Hotels, airlines, Railways, Passport and VISAs.

PAPER III: TOURISM RESOURCES

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Introduction: Meaning and concept of resources, attractions, destinations and resorts, Types of resources- natural, man-made, socio-cultural, religious; Indian Heritage, British heritage.

Natural Resources: National Parks: Perriyar, Sasan , Kaziranga, Kanha, Jim Corbett; Sanctuaries- Bharatpur; Tiger Reserves- Sunderban, Simlipal; Publicity, Hill stations- Mussoorie, Shimla, Kodai Kanal, Mountabu, Darjling, Shillong; Land and landscape, places of tourist attraction- accessibility, Shopping facilities, accommodation, coastal areas and sea beaches, islands.

Manmade Resources: Buddhist Resources: Lumbni Bodhgaya, Sarnath, Kushinagar, Sanchi, Ajanta & Ellora; Hindu Resources 4 Dhams- Badrinath, Remeshwaram, Puri, Dwarika, 12 Jyotirlingas, Temples- Durgiana Mandir, Ramthirte, Khajurao (Kandhariya Mahadev), Ellora (Kailashnath), Bhuvaneshwar, Temfor (Brihdeshwar), Gauhati (Kamakhya); Sikh: Anandpur sahib , Harminder Sahib(Golden Temple), Nanded, Patna Saheb: Islamic- ajmer (Khwaja Moinudin Chisti), Delhi (Hazrat Nizamuddin aulia); (Historical Churches), Jain, Temples; Museums, Art Galleries, Amusement Parks.

Socio-Cultural Resources: Fairs & festivals, rituals and ceremonies, events celebrations- beauty contests, musical concerts, trade shows, car rallies, cycle rallies, legends and haats: Dances: Musical nstruments of India, Performing arts: Regional gastronomy; shopping- handicrafts and souveniors.

PAPER III: TOURISM RESOURCES
PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

Preparation of handouts on tourism zones as specified by WTO, IATA, Geography, PATA areas, tourist generating regions to India and preferred tourist destinations.

1) To draw charts on tourism systems interrelating tourism market, transportation, destinations and marketing in the context of India's popular tourism states like Rajasthan, Himachal, Goa and Kerala.

2) To prepare report on the nature and characteristics of business and social tourists in context of their arrival in metros and pilgrimage destinations and to make their presentation.
3) To draw map of India and locate major tourist destinations and adjoining tourism market.
4) To identify tourist motivation of visitors, make a survey of 10 tourists, visiting a tourist destination and prepare a report.
5) Study tours to local tourist organization – tourist offices, regional tourist offices, Directorate of Tourism, etc. to analyze their strengths and weaknesses in attracting and serving tourists.

(v) OFFICE MANAGEMENT

PAPER I: OFFICE PROCEDURE & PRACTICE –I

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

UNIT-1: General introduction to an office

Meaning, Importance, Functions, Departments in office, Office Manager- Role, Duties and Qualities.

UNIT-2: Office organization

Meaning, Principles, Centralization and Decentralization of Office Services. Organizational Charts- Contents, types, advantages and disadvantages.

Unit-3: Office Accommodation and Layout

Office accommodation, Qualities of Office Building Layout- Principles, Steps in Designing Office Layout, Types of Layout, Open Office vs Private Office.

Unit-4: Office Environment

Meaning, Importance, Lighting, Temperature, Humidity, Ventilation, Noise, Interior Decoration, Cleanliness, Security and Secrecy.

UNIT-5: Handling Correspondence and Mail

Meaning and Importance of correspondence, handling correspondence, external and internal correspondence. Meaning and importance of mail, Centralization and Decentralization of mail handling. Procedure of handling inward and outward mail. Mail room equipment.

UNIT-6: Postal Information

Services rendered by post and telegraph Department- Letters, registered Letters, Insured letters, packets , and Parcels, Business reply cards, envelops etc.

Recorded Delivery Service- Certificate of Posting, Value Payable Post, Book post and remittance.

Speed Post and Courier Services. Telegrams- types.

Miscellaneous Services- Post Box, Post Bag, Identification Cards, Postal rates. Use of post office guide.

UNIT-7: Record Management and Filing

Importance of records, Classification , Purpose – Principles of Record keeping, Filing-Importance, advantages, essentials of a good filing system, Filing routine, Classifications of files- Alphabetical, Numerical, Alphanumerical, Geographical, Chronological, Subject wise etc. Centralized Filing, Methods of filing- old and new.

UNIT-8: Indexing

Meaning, essentials of a good indexing system, advantages, types. Visible indexing vs Blind Indexing.

UNIT-9: Noting and Note Sheet Writing

Meaning of Noting and note sheet, Need, Points to be kept in mind while writing on note sheet, submission of a note sheet, preservation of a note sheet.

PAPER-I: OFFICE PROCEDURE & PRACTICE –I

PRACTICAL AND PROJECT WORK

UNIT-1: Office Accommodation and Layout

Use of templates on blue prints of office buildings

UNIT-2: Office Environment

Visit an office to study the lighting arrangements, Ventilation, Interior Decoration, Cleanliness, Safety, security and prepare a report.

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

UNTI-3: Handling Correspondence and Mail

Practice of recording inward/outward mail
Use of letter opener
Use of time and date stamps.
Receiving and sorting mail- department wise.
Preparation of envelops
Preparation of inward mail diary
Practice on:
- Punching and stapling machine
- Folding machine
- Sealing machine
- Addressing machine
- Franking Machine

Weighing and stamping
Entering in despatch book
Practice of wrapping and packing

UNIT-4: Postal Information

Use of post office guide

UNIT-5: Record management and Filing

Preparing a folder

Inserting note sheet and letters in the file
Preparing a guide for files.
Placing of files according to different classifications
Searching the required file.
Placement of out guides of files in racks and cabinet.
Cross referencing of files.
Operating micro film equipment.

UNIT-6: Indexing

Preparing a book index for all the equipments and material kept in an office.

Preparing loose leaf index.
Preparing cards for card index with suitable guide cards.
Preparing visible card index
Preparing strip index

UNIT-7: Noting and Note Sheet Writing

Noting Submission of a note.

PAPER II: ELEMENTS OF ACCOUNTING

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

UNIT-1: Recording Transactions

a) Accounting- definition, functions and importance. Role of an accountant.
b) Key accounting terms- transaction, voucher, debit, credit, accounting equation, assets, liabilities, capital, profit, expenditure, stock, depreciation.
c) Types of accounts – personal, real, nominal. Recording of transactions.
d) Rule of double entry accounting vouchers- debit, credit and transfer vouchers.
e) Capital and revenue ,receipt and expenditure.

UNIT-2: Accounting Procedure

a) Day book and its utility. Types of transactions recorded in a day book
b) Types of day books- accounting and supporting vouchers, posting of vouchers in a day book.
c) Ledger- need and format, posting of transaction from day book to ledger.
d) Balancing of day book and accounts- meaning of debit and credit balances.
e) Trial Balance- Concept, Need and methods.
f) Arithmetical accuracy of ledger accounts.
g) Nature of errors not disclosed in a trial balance.
h)

UNIT-3: End of Period Accounts

a) Trading account- gross profit/ gross loss: profit and loss account net profit/ net loss
b) Assets, Capital and liabilities , Preparation of final accounts.

UNIT-4: Bank Transactions and Negotiable Instruments

a) Bank- services offered by bank to a business firm, Types of bank accounts- current, savings and fixed deposit accounts, pass book
b) Cheque- nature and type, crossing and endorsement, dishonour of a cheque.
c) Bank reconciliation statement- meaning, need, reasons for difference in the balance of cash book and pass book, preparation of bank reconciliation statement.
d) Bill of Exchange- Parties, acceptance, discounting, endorsement, dishonour, noting, Promissory note/ Hundi (elementary introduction)

PAPER II: ELEMENTS OF ACCOUNTING

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

UNIT:-1 Recording Transactions

Preparation of basic vouchers such as cash memos, receipts, bills, invoices, debit notes and credit notes.

UNIT:-2 Accounting Procedure

Preparation of a day book
Use of ledger, Posting of transactions recorded in vouchers to ledgers.
Preparation of a trial balance

UNIT-3: End of Period Accounts

Preparation of a final account.

UNIT-4: Bank Transactions and Negotiable Instruments

Drawing cheque, various types of crossings on a cheque.
Pay-in- Slip, Demand Draft, Bankers cheque.
Various endorsements of cheque/ demand draft.
Preparation of transaction on dishonouring of a cheque.
Preparation of cash receipts- bills of credit.
Preparation of T.A Bills- Wages and salary Bill.
Preparation of Bank reconciliation statement from given practice sets.

PAPER III: TYPEWRITING (ENGLISH)

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

UNIT-1: Typewriter and its Maintenance

Typewriter, its use and importance. A standard typewriter.
Makes and categories of typewriters.
Essential Parts of a typewriter and its use.
Care and upkeep of a typewriter.
Ribbon Changes and ribbon economy.

UNIT-2: Method of Typewriting

Touch
Sight
Horizontal and vertical approaches.

UNIT-3: Key Board operation

Need of proper type and size of table and chair for use of typist.
Sitting Posture.
Insertion and removal of a paper
Learning the second row (Home row)
Guide keys and home keys.
Learning the third row (upper row)
Learning the first row (bottom row)
Learning the fourth row (number row)
Special signs and symbols in the key board and its use

UNIT-4: Display in Typewriting

Centering –Horizontal, Vertical Spaced.
Types of headings.
Margin and line spacing
Use of punctuation marks
Figures- Arabic and Roman
Paragraphs types and styles, numbering, pagination, simple letters, how to type.

PAPER III: TYPEWAITING (ENGLISH)-1

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

UNIT-1: Key Board operations

1) Practicing second row, third row, first row and fourth row,.
2) Practicing words, sentences, paragraphs and passages.
3) Use of shift keys and other non- character keys.
4) Typewriting of special symbols of the key board and other punctuation marks.

UNIT-2: Speed Building

1) Different kinds of Drills for typing
2) Graded speed test leading to accurate speed of about 15 word per minute.
3) Typing of passages each containing 150 words in ten minutes
4)

UNIT-3: Display techniques

1) Centering- Horizontal vertical spaces.
2) Ensuring proper margins, line spacing

3) Typing different types of headings.

UNIT-4: Letter Typing

1) Typing exercise of personal, official and business letters in different styles with proper display.
2) Typing of applications for a job
3) Using carbon paper for taking out multiple copies
4) Envelope addressing

(vi) BANKING

PAPER I: ELEMENTS OF BANKING AND BOOK KEEPING

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Introduction: Meaning and definition of banking; Functions of commercial banks, Role of banks in economic and social development, role and functions of reserve bank of India. Recent trends in Indian commercial banking under financial sector reforms.

Lead Banks Scheme: Lead banks Scheme, District credit and action plans, service area approach, rural banking, promotion of mutual funds and merchant banking

Bank and the customer: Bank-Customer relationships, need for improved service, customers rights and obligations, customer services offered by banks, banks and consumers protection act.

Elements of book keeping : Accounting- meaning and objectives, important basic accounting terms, kinds of accounts, recording transactions , writing the ledgers, balancing ledger accounts, day books, trial balance, final accounts, profit and loss account and balance sheet, tallying the accounts and Banks Reconciliation Statement. Book keeping system in banks.

PAPER –I: ELEMENTS OF BANKING AND BOOK KEEPING

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

- Visit to a bank branch and observing functions of various departments in a bank.
- Preparation of action plan/village plan under LBS.
- Discussion and practical problems on banker- customer relationship such as Bailor- Bailee, Creditor- Debtor, pledger- pledgee etc., bankers right and obligations.
- Accounting- Journalizing, writing day book with the help of vouchers, posting them into ledgers, balancing the accounts, preparing trial balance, profit and loss accounts, balance sheet, bank reconciliation statement, tallying of account.

Note: It is suggested that the students may be taken to a bank branch so that they get an idea of the different books used in the bank and the way they are written, after that the students may practice in the dummy bank.

PAPER II: DEPOSIT ACCOUNTS

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Deposits General : Meaning, features, types of deposit accounts- demand and time, savings, term, recurring and current account, deposit mobilization and its importance, concept of marketing, change of operational instructions.

Savings Bank account: Meaning, importance, opening a savings bank account-savings account for different types of customers, individual/ single account, joint account, minors account, account for illiterates, accounts for non- trading concerns, closing of an account, settlement of balance in deceased's account, calculation of interest.

Current deposit account: Meaning, importance, opening a current account, operation of the account, current accounts for different types of customers; individuals, joint, sole preparatory, partnership firms, private and public limited companies, societies, trust accounts, club accounts etc. Miscellaneous instructions, transfer and closing of accounts, service charges.

Term deposit account: Meaning, features, short/long, periodical/re-investment schemes, one time/recurring deposit procedure, form, opening fixed deposit account, rates of interest, calculating of interest, payment on due date, renewal of deposit account, payment before due date, transferring of term deposit account. Loss of term deposit receipt and procedure for duplicate issue, periodical balancing of term deposit registers/ledgers, interest provisions.

Recurring Deposit account: Meaning and advantages of recurring deposit, entries in books of accounts, calculation of interest, RD amounts payable after various terms, interest structure and recent trends.

PAPER II : DEPOSIT ACCOUNTS

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

Types of Deposit: By means of group discussion/over a Branch Counter or Dummy bank students may be trained in opening of different types of accounts, counter clerks, other students to suggest different types of deposit accounts/schemes to suit the needs of different types of depositors. Exercises on distinguishing demand and time deposits, market for deposits and plans for Marketing of deposits.

Savings Bank Account: Account opening forms, how to fill in, specimen signature cards, preparation of pay-in- slips, entries in scroll cash book, pass book, register, SB ledger and SB supplementary, scrutiny of cheque requisition forms, issuing of cheque books, entries in cheque book issue register, withdrawal forms, minors declaration forms, payment of cheque/withdrawals, entries in SB ledgers and periodicals, balancing, payment scrolls, cash payment books, cheque returning memos, entries in cheque retiring register, stop payment instruments, their records in ledgers and registers, posting of clearing vouchers/ cheque, calculation of half

yearly products and interest, interest sheet preparation, posting of vouchers for interests, posting in ledger accounts for interest, closing of accounts, entries in pass books, index books, transferring an account from one branch to another and settlement of claims in deceased's account.

Current Deposit account: Filling in of account opening forms and pay in slip for different types of depositors particularly partnership firms and companies, pay-in-slips, cheque books, loose leaf/bond ledgers and entries therein, issue of periodical statement/pass book, stop payment instruction- recording in respective ledger/registers, dealing with cash/ clearing/ transfer debit/credit vouchers, entries in ledgers and periodical balancing, calculation and posting of service charges, deceased account, change of accounts, change of constitution of account holders particularly partnerships firms and companies, recording of mandate letters and power of attorney in respective registers.

Term Deposit Accounts: Filling up of account opening forms for various types of TD accounts, (fixed/short deposit account and various re-investment scheme account) and opening such account in respective ledgers. Exercises on rates of interest, calculation of due dates. Maintaining of term deposit registers and ledgers, posting of vouchers, filling up of pay-in-slips, withdrawal forms (if any), issue of term deposit receipts, encashment on due dates/renewal for further periods, encashment before maturity (due date), practical on action to be taken on loss of TDRS, issue of duplicate TDR, payment of balance in deceased accounts. Exercise on change of joint names, transfer of TDRS from one branch to another, handling over due accounts, addition and deletion of names.

Recurring Deposit Account: Filling of account opening form, filling of pay-in-slip and withdrawal forms. Exercises on use of reckoner for interest calculation, entries in registers/ledgers periodical balancing, issue of pass books, loss of pass books, duplicate pass books, handling overdue accounts, recovery of charges/interests on late installment payments, payment of balance in deceased's accounts.

Paper – III: HOUSE KEEPING IN BANKS

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

House Keeping: Meaning, objectives, application of Double Entry System of Book keeping to bank transactions. Vouchers – Importance and its preparation, various types of transactions – Cash Receipts / Payments and currency chests, Clearing outward/inward and clearing house, Transfer vouchers and Transfer scroll. Various books of accounts maintained in the banks, day to day transactions, records thereof, writing of subsidiaries/supplementary books, day book, general ledger and general ledger balance book, periodical balancing of accounts, tallying of various accounts, control mechanism and preventive measures for good house keeping, rotation of duties, checking and double checking. Dual control aspect for cash and sensitive items of stationery.

Negotiable Instruments and relevant Acts: Meaning and kinds of cheque, bill of exchange, promissory note, hundies, bank drafts, endorsements, crossing, payment of cheque precautions/rotation to collecting/paying banker, stop payment instructions, legal position regarding payments, dishonor of cheque, forged cheque, different types of bills collection/payment, calculation of due dates and disposal of unpaid bills. Statement of inter branch transactions-Branch Daily Statement.

Establishment work: Salary, leave, medical bills, travelling expenses/allowances bill, calculation of Income-Tax, perquisites, maintenance of staff record/staff files. Branch accounts with other banks viz. RBI/SBI – maintenance procedure, entries, periodical reconciliation.

Branch Premises: Owned/rented-expenses on maintenance. Accounting procedure, Branch up keep and cleanliness.

Furniture and fixtures and other fixed assets: Acquisition, tender system, records, numbering and periodical balancing. System of disposal/write off of furniture and fixtures.

Stationery: Objectives, proper records, purchase, maintenance of records. Time duration for maintenance of various files/records.

PAPER-III: HOUSE KEEPING IN BANKS

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

House Keeping: Sorting of vouchers according to ledger/departments and also to observe that vouchers are passed by the authorized officers, see that vouchers are branded with the appropriate stamp, enter all the vouchers in related subsidiary books, writing the total number and signature, totaling all the subsidiary/day books, tallying the same with the day book, posting in general ledger. Periodical balancing of accounts.

Preparation of Vouchers: Scrutiny of vouchers, posting of debit and credit vouchers, preparation of vouchers relating to debit entries for receiving

cash/cheques, preparing vouchers for receiving/paying cash, preparation of transfer vouchers, reversing an entry or a voucher and clearing vouchers.

Handling Cash: Practising procedure followed in the cash department of a bank for receiving cash, various steps, counting the notes carefully and quickly, sorting out the notes denomination wise in packets, counting the coins and sorting out denomination wise, examining and ensuring that they are genuine, signing the pay-in-slip form and affix cash received date stamp, preparation of cashiers receipt scroll, preparing packets of 100 pieces of notes and tallying the total number of receipt and payment vouchers with the cash book.

Clearing: Receiving outstation cheques and entering in the clearing register, stamping the cheques and sorting them bankwise, preparing schedule for each bank and general summary, exchanging the cheques in clearing house, preparing adjustment vouchers, entering the clearing register and balancing.

Negotiable Instruments: Practical exercises on cheques, bill of exchange and draft, crossing, endorsement, discounting, clean and documentary bills, collection of bills. Forwarding the bill from one branch to another, entry in the registers, passing related vouchers, endorsing the documents (Bill of exchange, RR, MTR, invoices, insurance policy etc.) obtaining acknowledgement, remit proceeds to the forwarding branch, calculation of the due dates, disposal of unpaid bills.

Establishment: Different cases of scrutiny of salary payments, maintenance of leave records, scrutiny of calculation of income tax, perquisite value, medical bills, travelling expenses etc.

Branch account with other Banks: One categorical practical to be given giving the details of operation of account with RBI/SBI for a month to include all types of transactions including remittance of funds, receipt of funds, collection of cheques, issue of cheques and students to write in branch account and also in the RBI/SBI books and prepare a reconciliation statement.

For other activities necessary practical for passing vouchers, entries in register/ledger be given. Preparation of Branch Daily Statement.

Preparation of vouchers for payment of certain revenue expenditures and recording thereof in profit and loss analysis book.

Preparation of vouchers for payment of capital expenditure and recording thereof in futniture and fixture ledgers.

(vii) GENERAL RECEPTIONIST

PAPER – I: RECEPTION

Time: 2 hrs | **Theory** | **Theory: 30Marks**
Syllabus | **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Unit -1 : Reception
Meaning – Definition – Importance of Reception – Need of a Receptionist – Reception in Commerical and Non-Commercial Organisations – Front office procedure for emergencies.

Unit – 2: Reception Office Lay-out
Layout of a Reception Counter – Factors to be considered for Layout organization of Reception Office.

Unit – 3: Receptionist
Qualities of a Receptionist-Duties and responsibilities-Public relations- Co-ordination with other departments-Front office Salesmanship in Commercial Organisation.

Unit – 4: Reception Office Personnel
Front office personnel working in reception division of commercial and non-commercial organisqtions-Role, duties and responsibilities-Front Office Assistant-Front Office consists Lobby-Bell boy-Bell captain.

Unit – 5: Introduction to Travel Tourism and Hotel
Tour and Travel Agency information-Awareness of the tourist spot-Role of Airline in the Tourism Industry; Role and functions of a travel agent-Information about Hotel-Categories of Hotels – Reservation – Safety locker management handling left luggage.

PAPER – I: RECEPTION
PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

Unit – 1
Visiting receptionist division of a commercial and non-commercial organization and list out the role of Receptionist in these organization.

Unit – 2
Submit a report on the lay-out of the reception office of commercial and non-commercial organistion and their strength and weakness with a sketch.

Unit – 3
Arrange a role-play of receptionist in the class-room.

Unit – 4
Visit to a Star Hotel and Travel and Tourism Organization- List out the various personnel working in the reception division, their duties and responsibility, and submit a report.

Unit – 5

Visit to a travel & tourism and hotel and collect various registers and forms used in reception (Registration Card, Arrival and Departure Register, Guest History Cards, Key Cards, Rack Slips, Log Book etc.)-Collect information from nearest city about Hotels and categorise them according to location, no. of rooms, type of plan and facilities offered etc.

PAPER – II: OFFICE PRACTICE AND PROCEDURE

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Unit – 1: Introduction to an Office

Meaning – Importance and functions – Location and layout of an office – Principles - Physical condition – Office environments and its importance – Various sections in a Modern Office – Factors to be considered in buying office premises and furniture.

Unit – 2: Office Organization

Meaning-Different types-Organization structure- Principles of organization-Delegation of authority-Importance and principles of delegation-Office Manuals-Meaning-Need- Types-Advantages and disadvantages of using office manuals-Techniques of improvement- Work chart- Work control-Quality control- Work checking-Time scheduling-Work simplification and own technique.

Unit – 3: Handling Mail, Filing and Indexing

Procedure for handling incoming and outgoing mail-Essential requirements for a good system of dealing with stationery. Meaning and importance essentials of filing-Essentials of a good filing system-Classification and methods of filing-Indexing-Meaning-Need-Various types.

Unit – 4: Office Equipments and Machines

Meaning and importance- Various equipments and machines used in a Modern Office Copies-Photocopying-Addressing Machine; Adding and calculating machines; Accounting machine, Electronic typewriter, Word processor, Modern Telephone, Fax, Computer with Printer and Scanner, Computer Hardware(Basics) and Software(Ms-Office: Ms-word, Ms- Excel, Ms-PowerPoint).

Unit – 5: Noting, Note sheet writing, Reports and Minutes

Noting-purpose salient features-procedure-limitation-Report-Minutes-Kinds of minute-importance-qualities of writing report-form of a report-techniques of reports writing.

Unit – 6: Stationary control

Stock control-stock taking-techniques of inventory and stock control-stationary control.

PAPER – II: OFFICEPRACTICE AND PROCEDURE

PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks:50**

Unit – 1
Visit to the nearest Modern office and to draw the layout of their office with various section and followed by the group discussion.

Unit – 2
Based on visit, draw an organizational chart of commercial and non-commercial organization and list out various office manuals and work chart used in their organization and discuss in the group.

Unit – 3
Filling up of various proformas of incoming and outgoing mail, record etc. Demonstrating the procedure of opening, stamping, entering, sorting the mail and various types of files, filing cabinets, indexing, in a Modern Office under the supervision of professionals.

Unit – 4
Practice with the modern equipments and machines used in the collaborating institutions. Practical Knowledge of Ms-Office (Ms-word, Ms- Excel, Ms-PowerPoint), Knowledge of opening & editing files in Ms-Office.

Unit – 5
Practising to draft different notes sheets, in different occasions-organising meeting report thereon under the supervision of professionals.

Unit – 6
Practising stock taking, inventory in the institution under the supervision of professinals.

PAPER – III: TYPEWRITING

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Unit – 1: Introduction to Typewriter
Typewriter – Its use and importance – Sizes of typewriter-Makes and categories-Operative parts and their uses-Maintenance-Ribbon Changing –Ribbon economy-Methods and approaches of leave key board.

Unit – 2: Key Board operation and Practice
Position of typist, typewriting-Material to be typed-Insertion of paper-Space arrangement-Shift Keys-Special signs and symbols-Centering-Method of centering-Spacing- Punctuation marks-Techniques of paragraphing-Arabic and Roman-Syllabification- Foot notes-Carbon copying-Assembling and removal of carbon paper-Stencil cutting and correction.

Unit – 3: Proof-reading Symbols
Introduction to special signs and symbols and proof- Types of Proof-Methods-Manuscript awareness.

Unit – 4: Speed Building
Speed drills – Types of speed drill-Stocking pattern-Speed building procedure-typing from news papers, books and journals – Typing various business letters, correlated draft and manuscripit paper-Filling receipt and vouchers, agenda minutes, memoranda and invoices, account sales and balance-sheet.

Unit – 5: Tabular Building
Table-Vertical and horizontal placement-Column headings- Tabulation styles – Methods of vertical ruling.

PAPER – III: TYPEWRITING
PRACTICAL AND PROJECT WORK

Time: 3 hrs **Marks: 50**

Unit – 1
Operation of key board-Practising upper, bottom and number row-Practisisng chief operative parts, special signs.

Unit – 2
Practising to type on envelopes-Using cylinder knob adjustments etc. – Practising stencil cutting-Filling up the blanks forms-Space and words adjustment etc. – Typing business and official correspondence, envelope addressing, telegram.

Unit – 3
Removing and replacement of ribbon-Up and down movement of the ribbon-Length-wise feeding of ribbon-Troubles-Remedy-Cleaning and oiling the typewriter-Trouble shooting-Jerky movement of carriage-Causes, Remedy-Demonstration on carriage-Draw-cord-etc. –Step-by-step movement of the carriage-Bell ringing mechanism-Marginal stop mechanism.

Unit – 4
Dog block mechanism-Functions of Loose-dog and Rigid-dog-Troubles-Remedy.

(viii) MARKETING AND SALESMANSHIP

PAPER-I **PRINCIPLES OF MANAGEMENT**

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Management: meaning, features, objectives, functions of management and principles.

Planning: meaning, features, importance, advantages and limitations.
Organization: meaning, features, objectives, principles, formal and informal organization.

Delegation: meaning, principles, responsibility, accountability, centralization and decentralization,

Staffing: meaning, Human Resource Management, recruitment, training, wagepayment.

Directing: meaning, supervision and Communication,

Controlling: meaning, features, importance, limitation.

Time:3 hrs **PRACTICAL** **Marks: 50**

SYLLABUS

Preparation of organizational structure of a firm/company/business house located in your vicinity.
Study of method of recruitment, staffing pattern and method of wage payment, copy, viva, Project reports.

PAPER-II **MARKETING MANAGEMENT**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Marketing: meaning, objectives, importance and advantages of marketing,
Marketing mix: meaning and elements of marketing mix
Product Planning: meaning, product life cycle
Pricing: meaning of price, importance, pricing policies and strategies
Channel of Distribution: meaning, classification of channels

Time:3 hrs **PRACTICAL** **Marks: 50**

Project Enlisting of products of daily use by consumers/traders in local market of your locality
(i) To study the product life cycle of any two products
(ii) To study the distribution channels of any two products

PAPER-III **SALESMANSHIP**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Salesman ship: meaning, features, importance, Personal selling and salesmanship, importance of salesmanship, qualities of a good salesman

Product: Classification of products, Branding, Packaging and labelling.

Advertising and sales promotion: meaning, objectives, functions.

Advertisers: danger of advertising, types of advertising, advertising media, advertising agency, functions of advertising agency, preparation of an advertisement.

Sales promotion: meaning, objectives of sales promotion, methods of sales promotion.

Consumer Protection: meaning, consumer rights, ways of consumer protection, redressal machinery under the act

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

Survey the products which are sold door to door or in your street through Personal Selling and describe the various pros and cons from by buyer and seller's point of view.

Describe different methods of advertise of at least 5 products being sold in your local market.

(ix) RURAL MARKETING

PAPER-I **PRINCIPLES OF MANAGEMENT**

Time: 2 hrs	**Theory**	**Theory: 30 Marks**
	Syllabus	**CCE : 10 Marks**
		Practical : 50 Marks
		Total: 90 Marks

Management: meaning, features, objectives, functions of management and principles

Planning: meaning, features, importance, advantages and limitations

Organization: meaning, features, objectives, principles, formal and informal organization

Delegation:meaning, principles, responsibility, accountability, centralization and decentralization.

Staffing: meaning, Human Resource Management, recruitment, training and wage payment.

Directing: meaning, supervision and communication.

Controlling: meaning, features, importance and limitations.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

Preparation of organizational structure of a firm/company/business house located in your vocinity.

Study of methods of recruitment, staffing pattern and methods of wage payment, copy, viva, Project reports

PAPER-II **MARKETING MANAGEMENT**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Marketing: meaning, objectives, importance and advantages of marketing
Marketing Mix: meaning and elements of marketing management
Rural Marketing: Marketable surplus, requirements for rural marketing, significance of rural marketing, ways of agriculture marketing, Problems of Agriculture Marketing, Measures to improve agriculture markets, Role of regulated and unregulated market, Procurement Policy. **Pricing Policy:** advantages of agriculture pricing policy, limitation of agricultural pricing policy, measures improve agricultural price policy.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

Project Enlisting of products of daily use by consumers/traders in local market of your locality
(i) To survey the Agro-products being sold in agricultural markets and study the problems faced by buyers and sellers of agro products
(ii) To survey the regulated and unregulated agro-markets of your locality

PAPER-III **SALESMANSHIP**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Salesmanship: meaning, features, importance, personal selling and salesmanship, importance of salesmanship, qualities of good salesman,
Products: classification of products, Branding, Packaging and labels, Role of Mahila Mandals and self help groups in marketing, Role of marketing Board in marketing, Role of infrastructure in rural marketing, Barriers in the way of rural markets measures to overcome these barriers.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks:50**

Survey the products which are sold door to door or in your street thing Personal Selling and describe the various pros and causes from by buyer and seller's, point of view

To prepare a project work on the working of self help group as Mahila Mandal

(x) TRANSPORT SERVICES

PAPER-I **INFRASTRUCTURE AND MODES OF TRANSPORT**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Infrastructure of Roads: types, construction, procedure, maintenance of roads,

Modes of Transports: Autos, taxicabs, Buses, Minibuses. crisis management during accidents, recovery van and relief van

Motor Vehicle Act 1939.

Insurance: third party, fire and accidental policy and insurance of passengers.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

To survey the various roads in relation to their maintenance status within the radius of 5Km of your school.
To study the crisis management infrastructure in your locality, availability of recovery Van, its connectivity and cost in your locality.

PAPER-II **TRANSPORT MANAGEMENT**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

i. **Application of management:** principles, time management, resource management, manpower management, inventory management, cost benefit analysis.

ii. **Time Table & Routes:** management of Rain & Sun Shelter;

iii**.** Signs and Symbols of Transport.

iv. Training of Drivers & conductors, Recruitment and selection procedure.

v. Calculation of fares. Road safety measures

vi. Traffic lights and roundabouts.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

The students are required to study the cost benefit analysis of any mode of transport (autos, minibuses, van, taxicabs and rickshaws).
To study status of road safety measures in your locality in relation to Zebra crossing, Speed braker, traffic lights, roundabouts, placement of various road safety signs and identification of accident prone area in your locality and suggest various precautionary measures.

PAPER-III **ICT IN TRASPORT INDUSTRY-I**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Fundamentals of Computer
Memory

Input, Output, Data Storage Devices

Hardware and Software

Modernization of Office

Meaning and Relevance of Office, Automation Office Machines; Type Writer, telephone, fax, Computer, Scanner, printer,

MS Office (MS Word and MS Excel)

SYLLABUS

Time: 3 hrs **PRACTICAL** **Marks: 50**

Practical Knowledge regarding basics of Computer, Checking the connectivity, starting up Computer System.
Operation of scanner & Printer.
Creating, editing, formatting MS documents
Creating tables in MS Word
Creating, Editing and formatting worksheets in MS Excel.
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(xi) BASIC FINANCIAL SERVICES

PAPER-I: **ACCOUNTING FOR BUSINESS**
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Accounting: meaning and objectives, important, basic accounting terms, kinds of accounts, recording transactions, writing the ledgers.
Accounting: balancing ledger accounts, day books, trial balance, final accounts, profit and loss account and balance sheet, tallying the accounts and Bank Reconciliation statement, Bookkeeping system in banks.

SYLLABUS
Time:3 hrs **PRACTICAL** **Marks: 50**

PROJECT WORK:

1. The syllabus of project work is same as prescribed for the theory.
2. Project Note Book will consist of at least one comprehensive project and some short answer questions based on the prescribed syllabus.

PAPER-II: **INTRODUCTION TO FINANCIAL MARKET**
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Financial Management: meaning, objectives, functions.

Financial Planning: importance, objectives, capital structure, fixed and working;

Capital Market & Money Markets: capital market meaning, elements, nature, function..

Capital Market & Money Markets: primary market, secondary market, financial institution, Money market; constituents, functions, security Exchange Board of India (SEBI); objectives of SEBI, Functions of SEBI;

Stock Exchange: meaning, functions, listing of securities, Procedure for dealing as stock exchange operators at stock exchange, national stock exchange, over the counter exchange of India.

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

Enlisting of various firms providing financial services to your locality in relation to various services provided by them.
To prepare a project report of a firm providing services of sale and purchase of shares.

PAPER-III: COMPUTER APPLICATION IN FINANCIAL MARKETING

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Information Technology: concept of information technology, fundamentals of computer, hardware concepts, memory system of computer, software concept.

1. Introduction to e-commerce
2. e-commerce in India
3. e-payment

SYLLABUS

Time:3 hrs **PRACTICAL** **Marks: 50**

Computer Fundamental: Checking the connectivity, Peripherals of Computer, Booking of (Start up) the computer system.
Windows operation: using mouse, study of different manuals available in windows.
Prepare a project report on various e-payment facilities available in various Banks in your locality

(xii) INSURANCE

PAPER-I: PRINCIPLES AND PRACTICES OF INSURANCE

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Origin: meaning of Insurance, Features of Insurance, Principles of Insurance, Functions of Insurance,

Various kinds of Insurance: Marine Insurance, Fire Insurance, Life Insurance;

Marine Insurance: meaning, features, Procedure for effective marine Insurance, various policies of Marine Insurance;

Fire Insurance: Meaning, features, Procedure for effective Fire Insurance, various policies of Fire Insurance.

Life Insurance: meaning, features, Procedure for effective Life Insurance, various policies of Life Insurance.

Property Insurance: crop insurance, fire insurance, Burglary insurance, theft insurance and Baggage Insurance.

Motor Vehicle Insurance

SYLLABUS

Time: 3 hrs **PRACTICAL** **Marks: 50**

The students are required to prepare a project report based on the survey of shopkeeper of your locality who have taken various types of insurance policies. The report would include the motives & experiences of the policy holder.
Prepare a report on the basis of experience of policy holder who have taken claim of an insurance policy.

PAPER-II: **INSURANCE LEGISLATIONS**

Time: 3 hrs **Theory Syllabu** **Theory: 80 Marks**
CCE : 10 Marks
Total: 90 Marks

Indian Insurance Act 1936,
Life Insurance Act 1956, Motor Vehicle Act 1939, Settlement Claim, Procedure for Settlement of Claim.

PAPER-III: **INSURANCE SALESMANSHIP**

Time: 3 hrs **Theory Syllabus** **Theory: 80 Marks**
CCE : 10 Marks
Total: 90 Marks

Salesmanship: definition, features, Objectives, Qualities of Insurance Agent, Selection of Agent, Training of Agent and Placement.

Development Officer: meaning, qualities, selection, training and placement.

Techniques: insurance salesmanship, Process of insurance salesmanship techniques of convassing.

(xiii) TAXATION PRACTICES

PAPER I: Elements of Book Keeping

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

Basic Accounting Terms: Asset, liability, capital expense, income; expenditure, revenue, debtors, creditors, goods, cost, gain, stock, purchase, sales, loss, profit, voucher, discount, cash and trade discount, transaction, drawings, equity.

Kinds of Accounts: Recoding transaction, writing of Ledger, balancing of ledger accounts, Day book, Trial balance, Preparation of final accounts, Profit and loss account, balance sheet tallying the accounts and Bank Reconciliation

statement. Book keeping system in Banks, Depreciation-Provisions and Reserves.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Prepare a project report on the various books and ledgers maintained by a business house/institution in your locality.
2. Visit to a bank branch and observe various functions of the bank and write a report on the same.
3. Prepare a project report on profit and loss and balance sheet of a business firm/institute in your locality.

PAPER II: Principles of Management

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

Management: Meaning, Features and Objectives. Functions of Management & Principles of Management

Planning: meaning, features, importance, advantages and limitations

Organization: Meaning, features, Objectives, Principles, Formal and Informal Organization

Delegation: Meaning, Principles, Responsibility, Accountability, Centralization and decentralization.

Staffing: Meaning, Human Resource Management, Recruitment training, wage payments.

Directing: Meaning, Supervision and Communication

Controlling: Meaning, features, importance and limitations

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit a business enterprise/institution and prepare a project report on the management of the enterprise.
2. Visit a business house/firm/institution and prepare a project report on the salary structure of the institution.

PAPER III: Fundamentals of Income Tax

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Fundamental Concepts and residential status.
2. Income under the head salaries and Income from house property.
3. Profits and gains of business or profession, Capital gains.
4. Income from other sources.
5. Income of other persons including assessee's total income.
6. Set off and carry forward of losses
7. Deductions to be made from gross total income
8. Exemptions
9. Rebates from tax liability
10. Agricultural income.
11. Computation of tax liability of individuals.
12. Firms
13. Companies
14. Co-operative Societies
15. Return of Income
16. Tax deductions at Source and tax collection at source
17. Advance tax
18. Interest
19. Filing of Return.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit an Income Tax Office and prepare a project report on the working of various sections of Income Tax Office.
2. Prepare income statements of persons of your locality and compute their tax liability.

(xiv) RURAL INFORMATICS MANAGEMENT

PAPER I: PRINCIPLES OF MANAGEMENT

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Management: meaning, features and objectives,
2. Functions of management and principles of management.
3. Planning: meaning, features, importance, advantages and limitations.
4. Organization: meaning, features, objectives, Principles, formal and informal organization.

5. Delegation: meaning, principles, responsibility, accountability, centralization and decentralization.
6. Staffing: meaning, human resource management, recruitment, Training, wage-payment.
7. Directing: meaning, supervision and communication

8. Controlling: meaning, features, importance and limitations.

SYLLABUS

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit business enterprises/institutes and prepare a project report on the management of the enterprise.

2. Visit a business house / firm/ Institutes and prepare a project report on the salary structure of the institute.

PAPER II: Information Technology & e- Commerce

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

Concept and scope of information technology,
Fundamentals of computer, Hardware concepts, Memory system of computer, Software concepts multimedia, fundamentals of internet, working with internet.
Introduction to e- commerce, e-commerce in India, e- payments, e- security, e-banking, e- trading and e- marketing.

Time: 3 hrs **PRACTICAL** **Marks: 50**

Conduct a survey of your locality and prepare a project report of at least 5 persons who are using computer at home and enlist the various advantages of computer's to these persons:

1. Logging into internet.
2. Navigation for seeking information
3. Searching information on internet
4. Sending and recovery E-mail.
5. On-line Purchasing.

Project Work: Open the website www.monster.com and register your resume over it. Open the site www.scholarshipsinindia.com makes a list of scholarships that are available in India and abroad.

PAPER III: e-Governance

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

e- Governance: meaning, scope, e– Governance in developing countries, Delivery models of e – services, uses of e- governance, Empowerment rural communities, reducing costs and increasing revenue, Control of govt. expenditure, Growth of tax revenue.
Bhoomi computerization of land records, Gyandoot community owned rural internet kiosks
Card – computer aided registration of deeds
Voice- computerized service centers for panchyat.

Time: 3 hrs **PRACTICAL** **Marks: 50**

Visit a suvidha centre in your area and prepare a list of various services available at that center and record views of at least 10 persons about the benefits and demerits of these centres.
Visit a computerized office for land records and prepare a project report on its working and prepare a list and benefits available to general public.

(xv) EXPORT IMPORT DOCUMNETATION

PAPER I: PRINCIPLES OF MANAGEMENT

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Management: meaning, features and objectives,
2. Functions of management and principles of management.
3. Planning: meaning, features, importance, advantages and limitations.
4. Organization: meaning, features, importance, objectives, Principles, formal and informal organization.
5. Delegation: meaning, principles, responsibility, accountability, centralization and decentralization.
6. Staffing: meaning, human resource management, recruitment, training, wage payment.
7. Directing: meaning, supervision and communication
8. Controlling: meaning, features, importance and limitation.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit a business enterprise / Institution and prepare a project report on the management of the enterprise.
2. Visit a business house/Firm/Institution and prepare a project report on the salary structure of the institution.

PAPER II: INFORMATION TECHNOLOGY & e- Commerce

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Concept and scope of information technology
Fundamentals of computer, Hardware concepts, Memory system of computer, Software concepts, multimedia, fundamentals of internet, working with internet.
Introduction to e- commerce, e-commerce in India, e- payments, e- security, e-banking, e- trading and e- marketing.

Time: 3 hrs **PRACTICAL** **Marks: 50**

Conduct a survey of your locality and prepare a project report of at lease 5 persons who are using computers at home and enlist the various advantages of the computer to these people.

1. Logging into internet.
2. Navigation for seeking information
3. Searching information on Internet
4. Sending and receiving e-mail.
5. Purchasing through Net.
6. Project work: Open the website www.monster.com and register your resume over it. Open the website www.scholarshipsinindia.com make a list of scholarships that are available in India and aboard.

PAPER III: EXPORT MANAGEMENT

Time: 3 hrs **Theory** **Theory: 80 Marks**
Syllabus **CCE : 10 Marks**
Total: 90 Marks

Exports – meaning: Foreign trade policy 2009-14, Potential items of export. Setting up an appropriate business organization, choosing appropriate mode of operation, naming the business, selecting the product, making effective business correspondence, selecting the overseas market. Selecting prospective overseas buyers, Selecting channels of distribution, Negotiating with prospective overseas buyers, Processing an export order and entering into export contracts.
Registration with regional authorities of Director General of Foreign Trade. Registration with export promotion council commodity boards / Authorities.

Registration with value added tax authorities and central excise authorities, Obtaining permanent account number, export of samples, Gifts, Spares, Replacement and repaired goods. Appointing overseas agents.
Permission for the export license, Validity of export license, Revalidation of export license, Export by post and export through courier service, obtaining export credit insurance.

(xvi) CO-OPERATION

PAPER I: ELEMENTS OF BOOK KEEPING

Time: 2 hrs | **Theory Syllabus** | **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

Basic Accounting terms: assets, liability, capital, expense. income, expenditure, revenue, debtors, creditors, goods, cost, gain , stock, purchase, sales, loss, profit, vouchers, discount, cash and trade discount, transaction, drawing, equity. Kinds of accounts, recording transaction.

Writing of ledgers, balancing of ledger accounts, Day Book, Trial Balance, Preparation of final accounts, profit and loss account, balance sheet. Tallying the accounts and bank reconciliation statement, Book keeping system in bank. Depreciation, provision and reserves.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Prepare a project report on the various books and ledgers maintained by a business house / Institution in your locality.
2. Visit a bank branch and observe a various function of the bank and write a report on the same.
3. Prepare a project report on profit and loss account and balance sheet of a business firm / institute in your locality.

PAPER II: Management

Time: 2 hrs | **Theory Syllabus** | **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Management: meaning, features and objectives,
2. Functions of management and principles of management.
3. Planning: meaning, features, importance, advantages and limitations.
4. Organization: meaning, features, importance, objectives, principles, formal and informal organization.
5. Delegation: meaning, principles, responsibility, accountability, centralization and decentralization.
6. Staffing: meaning, human resource management, Recruitment, Training, wage payment.
7. Directing: meaning, supervision and communication.
8. Controlling: meaning, features, Importance and limitation.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit a business enterprise/Institution and prepare a project report on the management of the enterprise.
2. Visit a business house / firm / institution and prepare a project report on the salary structure of the institution.

PAPER III: COOPERATIVE MANAGEMENT

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Co- Operation: meaning, Features of Cooperative enterprises.
Cooperative: a special form of business organization. Cooperative Principles. Objectives of cooperation.
Organization of cooperatives: Credit cooperatives, Classification of credit cooperatives, agricultural credit cooperative structure, Primary agriculture credit societies, Objects, memberships, Source of funds, Security rate of interest, repayment of loan, over dues, Crop loan, linking credit with marketing , distribution of profit. Multipurpose cooperative societies. Progress of the primary credit societies.

Central Cooperative Banks: need for central cooperative banks. Types of Central Cooperative Banks, their functions, Source of funds, management progress. State Cooperative banks, the constitution, Functions and objects.
Cooperative Land development Banks, Objectives sources of funds, non agricultural credit cooperatives, cooperative urban banks, their functions, sources of funds.

Cooperative Marketing: definition, objectives, functions, regional Marketing cooperative societies , state cooperative marketing federation, National agricultural cooperative marketing federation, Cooperative processing development in India. Cooperative sugar factories, Cooperative food grains processing units, Vegetable and fruit processing units, Oil Seeds processing units and cotton processing units.

Time: 3 hrs **PRACTICAL** **Marks: 50**

1. Visit an agricultural cooperative society running in your locality and study its structure areas and objectives, memberships, Source of funds and services provided by it to members in particular and society at large prepare project report on its working.

2. Visit a cooperative Marketing federation e.g. Milkfed and study its structure aims, Membership, sources of funds and services provided by it to members in particular and society at large. Prepare a project report on its working.

III HOME SCIENCE GROUP

(i) FOOD PRESERVATION

Paper-I **FUNDAMENTAL OF FOOD PRESERVATION**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Our Food-Functions of food, basic food groups, sources & functions of various nutrients.
2. Food Preservation Industry-Its need, future scope and role in the economy of country with special reference to Punjab.
3. Effects of processing and storage on the nutritive value, colour, appearance, texture, flavour and overall acceptability of foods. Post harvest technology for fruits and vegetables - surface coating, low temperature, maturity & ripening and deep freezing.
4. Food Additives-spices, preseratives flavours & colours - their properties and uses.
5. Study of (a) Simple equipments and their use-thermometer, gelmeter, hygrometer, salinometer and repractameter (b) Simple laboratory processes used in food industries- Pasteurization, homogenization, filtration, distillation, evaporation, condensation.
6. Study of pH, mode of detection and its role in food preservation.

FUNDAMENTALS OF FOOD PRESERVATION

PRACTICAL

Time : 3 hrs **M. Marks : 50**

1. Weights, measures and conversions.
2. a. Use of simple equipments used in the food industry such as thermometer, gel-meters, hygrometer, refractometer and salinometer.

   b. Simple processes like distillation, evaporation, condensation, pasteurization and homigenization.
3. Methods of increasing shelf life of perishable foods by surface coating and low temperature.
4. Market surveys -
   a. Type of food available.
   b. Prices.
   c. Handling techniques (container, bags etc.)
5. Preparation and standardization of Normal Solutions.
6. Determination of acidity and alkalinity & pH.
7. Visit to orchard/market to observe stages of maturity of locally grown vegetables and fruits.
8. All practicals to be recorded in file along with procedures, analysis and samples.

Paper-II **FOOD MICROBIOLOGY AND QUALITY CONTROL**

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Elementary knowledge of Mould, Yeast & Bacteria, their advantage and disadvantages with reference to food.
2. Causes of food spoilage - Physical, Microbial and Enzymatic.
3. Control of Communication in preserved foods.]
4. Food Poisioning - Causes & Control.
5. Effect of Heat & pH on Micro organisms.
6. Quality Control-Evaluation, methods, system and scope.
   a) Food standards & specifications - Food laws governing FPO, MFPO, PEA, ISI, Agmark, FSSA (Food safety & Standard Act).
7. Organo-Ieptic (Sensory) evaluation of foods.
8. Food Adulteration-common adulterants and simple detection techniques.

FOOD MICROBIOLOGY AND QUALITY CONTROL

PRACTICAL

Time : 3 hrs **M. Marks: 50**

1. Use of microscope, its parts, accessories and their use.
2. A visit to microbiological laboratory in the area and report writing for the same.
3. Method of preparing slides and use of simple stains.
4. Practical observation and identification of common organisms causing food spoilage.
5. Simple techniques of detecting food adulteration.
6. Methods of detection of spoiled cans and care while consuming high pH foods.
7. Fermentation techniques for juices and beverages.
8. Determination of total soluble solids by refractometer - hygrometer salinometer and gel meter etc.
9. Determination of salt in food products by chemical analysis.
10. Market survey for consumer awareness regarding Quality Control and labels.

All practicals to be recorded in file along with procedures, analysis and samples.

Paper-III **FOOD PRESERVATION TECHNIQUES**

Time: 2 hrs **Theory Syllabus** **Theory: 30 Marks**
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Food Preservation - Definition, importance, principles and methods of food preservation.
2. Preservation by salting, Brining, Curing and Pickling.
3. Preservation by sugar-principles involved in jams, jellies, marmalades, preserve, glazed, Crystallized.
4. Preservation by Chemical-class I and class II preservatives.
5. Refrigeration and freezing-advantages and disadvantages, storage and spoilage.
6. Sun drying and dehydration-principles involved, factors affecting drying, types of dehydrators, dehydration & rehydration ratios.

7. Preservation by alcoholic, acetic and lactic acid fermentation in foods and their importance in the diet.
8. Advanced methods of preservation:
    (i) Irradiation.
    (ii) Antibiotics.
    (iii) Controlled atmospheric storage.
9. Pectin-Properties, uses and grades.

FOOD PRESERVATION TECHNIQUES

Paper-III **PRACTICAL**

Time : 3 hrs. **Marks : 50**

1. Preparation, Organo leptic Evaluation and costing of the following as per seasonal availability.
    a) Pickles
    b) Jams & Marmalade
    c) Sauces, Ketchup, Chutneys.
    d) Fruit Juices, Squash, Crush, Cordial, RTC beverages, Sweetened Juices, fruit & Synthetic Syrups & Fruit Toffees.
    e) Pappad & Varian.
2. Sundrying of seasonal Vegetables & Calculating their dehydration and rehydraion ratio.
3. Visit to Cold Store & Food processing industry & report writing for the same.

All practicals to be recorded in file along with procedures, analysis and samples.

(ii) COMMERCIAL GARMENT DESIGNING AND MAKING

Paper-I **TEXTILE SCIENCE**

(COMMON FOR ALL THE TEXTILE BASED COURSES)

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Fibres - Introduction to Textiles Fibres, classification and description of various textile fiblres (Natural, manmade and synthetic), Physical and Chemical properties for identification, use and care.
2. Yarn - Types of Yarns - simple, novelty and textured yarns.
3. Weaves - Introduction to different types of weaves. (not for the students of knitting technology).

    Introduction to different types of knittings (For Knitting technology students only).
4. Dyes - Introduction to dyeing, classification of dyes as per their application - Natural, Direct, Acidic, Basic, sulphur Indigosol/soluble vat, Reactive, Disperse Nephathol or Azoic, chrome, Oxidation dyes and Pigment colours.
5. Finishes - Purpose, types & understanding the effect of some common finishes used in textile industry like Mercerisation, Sanforisation, Sizing, Crease resistance, Calendering, Tentering and Embossing.

6. Study of various kinds of stains on textile and their removal.

TEXTILE SCIENCE

Paper-I **PRACTICAL**

Time : 3 hrs. **Marks : 50**

1) Identification of various textiles fibres by Physical (Burning and Microscopic) and Chemical (Solubility) methods.
2) Methods of Washing, Bleaching, starching, drying and ironing of various fabrics.
3) Colour fastness test to heat, Sunlight, gas fumes, perspiration, humidity, washing, crocking and Ironing on coloured natual fabrics.
4) Identification of various types of vegetable, animal, chemical and mineral stains and their removal.

All practicals to be recorded in file along with procedures, analysis and samples.

Paper-II **DESIGNING AND PATTERN MAKING**

THEORY

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabu **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Design - a) Concept and types - Structural and applied.
   b) Elements of design - Line, Colour, Texture, Form and Shape.
   (i) Line - Straight, Vertical, Diagonal, Horizontal and Curved lines.
   (ii) Colour - Theory of colour, qualities of colour, colour wheel, colour schemes. Psychological impact of colours and factors affecting choice of colours.
   (c) Principles of design-Balance, Harmony, Rhythm, Proportion and Emphasis in relation to apparel.
2. Sketching - a) Tools for drawing and sketching.
   b) Figure sketching - Normal figure, Fashion figure, Block figure and Flesh Figure
   c) Optical illusions of
   (i) Inner lines - Vertical, Horizontal, Diagonal & Curved lines and also of big and smallChecks.
   (ii) Outer lines - Rectangular, Circular, Square, Triangular, Inverted Triangular.
   (iii) Wide and Narrow panels of various garments.
   (iv) Sleeves, Collars, Neck lines. Yokes and Pockets.
3. Introduction to measuring, marking, drafting and cutting tools.
4. Paper pattern - Purpose, principles, techniques and use in lay out any cutting.
5. Importance of taking accurate body measurements, locating proper measuring points for children, women and men.
6. Standard measurements for children (measurement charts).
7. Introduction to pattern manipulation and principles of pattern manipulations.
8. Adaptation of basic paper pattern to size, shape,darts and fullness.
9. Method of adaptation of basic bodice block for developing garment pattern.
10. Collar, sleeve and yoke manipulations.

DESIGNING AND PATTERN MAKING
PRACTICAL

Time : 3 hrs. **Marks : 50**

1. Design - a) Basic lines
   b) Colour-Wheel, tints and tones, combinations and schemes.
   c) Texture-Textural combinations with fibric samples.
2. Sketching - a) Floral and Geometrical motifs.
   b) Block Figure, Flesh figure, Normal and Fashion figure.
   c) Composition of figures with pencil shading and colour media.
   d) Flesh figures with garments for ladies and children keeping in view the modern trends of fashion.
3. Taking body measurements, their sequence and application in drafting and cutting.
4. Drafting child's bodice block.
5. Drafting child's sleeve block.
6. Adjustment in block pattern of children.
7. Drafting lady's bodice block.
8. Drafting lady's sleeve block.
9. Adjustment in block pattern of ladies.
10. Making paper pattern of basic bodice block, sleeves and collars.

All practicals to be recorded in file along with procedures, analysis and samples.

CLOTHING CONSTRUCTION

Paper-III
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Tools and equipments for sewing Ironing and finishing.
2. **Sewing machine :**
   a) Types - Hand, Tradle and Motorized ; main parts, their operations and safety measures.
   b) Different types of stitching adjustments attachments and their uses.
   c) Minor defects and their remedies.
   d) Sewing threads - their number, sizes and uses with relation to needle and cloth.
3. **Basic processes for garment making -**
   a) Basic stitches - Basting, Running stitch, Back stitch, Blanket stitch, Button-hole. Hemming, Slip stitch, Whipping, Lock stitch.
   b) Decorative stitches - Lazy-daisy, Chain, Stain stitch, Herring bone, Feather-long and short, French knot, Patch work. Mirror work Cross stitch and Beading.
   c) Seams and seam finishes - Plain seam, Counter hem seam, Lapped seam, Run and fell seam.
4. **Principles of Garments Making -**
   a) Preparation of fabric-shrinking, straightening, ironing.
   b) Placing, marking, cutting and handling of various type of materials.

c) Selection of trimmings, supporting fabric (lining, interlining) and fastner.

5. Disposal of fullness - Pleats-Knife, Box, Laverted; Darts, Tucks, Pin shells, Gathers, Smocking, Shirring, Frills and Ruftle.
6. Plackets - One piece and two piece placket opening.
7. Fastners- Press buttons, 'Hooks and eyes, Eyelets buckles, Button, Button holes, Zippers and Velero tape.
8. Edge Finishes - Facing and Binding both biased and shaped.

CLOTHING CONSTRUCTION

Paper-III **PRACTICAL**

Time : 3 hrs. **Marks : 50**

1. Identification and maintenance of tools and equipment of dress making.

2. Sewing machine -

a) Types, main parts, operation and care.

b) Main adjustments while operating sewing machine.

c) Special attachments and their use.

d) Minor defects and rectification.

3. Selection and use of different threads and needles for various fabrics.

4. Making samples of -

a) Basic stitches.

b) Decorative stitches.

c) Seams.

d) Disposal of fullness.

e) Fastners.

f) Edge Finishes

5. Drafting of basic bodice blocks for children and women.

6. Adapting the basic blocks for making the following garments;

a) Children - Frock & Shorts.

b) Women - Petticoat, Saree Blouse, Salwar Kameez.

7. Estimation of the fabric and accessories on the basis of body measurements.
8. Fitting, finishing, Ironing and folding of the above garments.
9. Files (a) Sample file, (b) Drafting and adaptation file.

All practicals to be recorded in file along with procedures, analysis and samples.

(iii) TEXTILE CRAFT (WEAVING)

Paper-I **TEXTILE SCIENCE**

SAME AS GIVEN UNDER

COMMERCIAL GARMENT DESIGNING AND MAKING

YARN PREPARATION AND FABRIC STRUCTURE

Paper-II

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabu **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Spinning & its types -
   a) Mechanical - spinning of cotton, wool and worsted.
   b) Chemical - Melt, Dry & wet spinning.
2. Terminology related to fabrication - fabric, Warp, Weft Woof, Weave, repeat pattern, design, draft plan, peg plan, selvedge (Plain, Tape, Split, Fused, Ieno, Tucked), texture motif and picks.
3. Introduction to yarn preparation, winding, wraping - Definition & different methods of warping, warping calculations (no. of ends/inch, no. of picks/ inch/no. of bobbins, no. of sections, width of sections, length of warp on bobbins, total length of yarn, weight of yarn, width of cloth including selvedge), sizing beaming, looming, yarn count, reed count and count of folded yarn.
4. Aims, objective and scope of weaving.
5. Use of graph paper.
6. Detailed classification of weaves - Elementary, Compound and Complex.
7. Introduction to the following weaves alongwith their draft plan and peg plan :

   Plain weave - Rib and Basket, Twill weave- Regular, Pointed Honey Comb, Satin, Sateen, Pile weave-Cut and Uncut.
8. Introduction to Computer Aided Weaving.

YARN PREPARATION AND FABRIC STRUCTURE
PRACTICAL

Time : 3 hrs. **Max. Marks : 50**

1. Warp and Weft winding, Pin winding, Bobbin winding and cone winding.
2. Plain Weave-Preparation of wrap, drafting, denting and drawing.
3. Basket Weave-Preparation of warp, drafting, denting and drawing.
4. Regular twill Weave - Preparation of warp, drafting, denting and drawing.
5. Pile Weave - Preparation of warp, drafting, denting and drawing.
6. Simple exercise on different types of knotting.
7. Introduction in Computer Aided Weaving.

All practicals to be recorded in file along with procedures, analysis and samples.

Atleast three visits to reputed textile industry, quality control centre or textile related institute, maintaining record of the visits and report writing for the same.

HANDLOOM MECHANICS AND OPERATIONS

Paper-III

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1) History of weaving & its importance in textile craft.
2) Types and parts of warping machine-creel stand, hackreed, warpreed, guide roller, warping drum, warping beam and drawing hooks and their functioning.
3) a) Types and parts of handlooms and their functioning.
   b) Harnessing of Handloom.
4) Different types & parts of shuttle.
5) Process of handloom fitting.
6) Motions of the handloom -
   a) Primary motions - shedding, picking & beating up.
   b) Secondary motions - Taking up & letting off.
7) Checking of handloom before operation and general precautions.
8) Different methods of drafting & denting.
9) Working of Dobby on handloom.
10) Working of Jacquard on handloom.

HANDLOOM MECHANICS AND OPERATIONS

Paper-III **PRACTICAL**

Time : 3 hrs. **Marks: 50**

1) Winding of bobbins.
2) Arrangement of bobbins in creel.
3) Passing of threads through the heckreed.
4) Pirl winding and inserting.
5) Fitting of handloom and maintenance.
6) Harnessing of Handloom.
7) Weaving of cloth - Plain weave, Basket weave, Twill weave and Terry pile weave.

All practicals to be recorded in file along with procedures, analysis and samples.

(iv) TEXTILE DESIGNING

TEXTILE SCIENCE

Paper-I **SAME AS GIVEN UNDER**

COMMERCIAL GARMENT DESIGNING AND MAKING

TEXTILE DESIGNING AND PRINTING

Paper-II

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1) Origin, historical background and characteristics of traditional Indian designs with special references to Punjab.
2) Design-Definition, Classification (structural & applied), principles and elements.
3) Colours-light and pigment theory of colours, colour wheel, primary, secondary and tertiary colours, colour schemes and Qualities of colour.
4) Introduction to textile printing materials used for printing, its importance and various methods of printing: block printing, roller printing, screen printing, spray printing/stencil printing and transfer printing.
5) Elementary study of thickening agents and auxiliaries.
6) Preparation of textile fabric for printing-Scouring, Bleaching, Sinzing & Batching.
7) Block printing of cotton fabric with aniline black.

TEXTILE DESIGNING AND PRINTING

Paper-II **PRACTICAL**

Time : 3 hrs. **Marks : 50**

1.(a) Practice of mixing colours showing colour on colour wheel with varied values and hues showing various colour combinations.

(b) Preparing file of at least 25 pages with different designs suitable for textiles using soft pencil, crayon, pencil colours, sketch pens, coloured ink or water colour.

2. Preparing paper stencils for printing.

3. Making of design for saree border, handkerchief and pillow cover.
4. Practice of painting with fabric colours on textiles.
5. Practice of printing aniline black on cotton cloth with hand block.
6. Making preparation of grey scale.

All practicals to be recorded in file along with procedures, analysis & samples.

Visit to museums, Art Galleries, Craft Meals and Report writing of the Craft apprised.

TEXTILE DYEING

Paper-III
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1) Brief study of pH value.
2) Precautions to be observed while scouring, bleaching and dyeing.
3) Scouring and bleaching of cotton and woolen fibres and fabric.
4) Properties, names and applications of direct dyes on cotton and after treatment with synthetic fixing agents.
5) Properties, names and applications of reactive dyes, azoic dyes (Naphthol), Vat and indigo-sol dyes.
6) Determination of weight of dyes and chemicals from percentage in recipes.
7) Dyeing of woolen yarn with acid dyes and metal complex dyes (Nulon and Chrome dyes).
8) A brief study of long bath, short bath, neutral bath, standing bath, stripping, leveling.
9) Study of factors affecting the fading of dyed textiles - Heat, light, sunlight, gas fumes, humidity, perspiration, rubbing chemicals, washing, crocking and Ironing.

TEXTILE DYEING

Paper-III **PRACTICAL**

Time : 3 hrs. **Marks : 50**

1) Practice of scouring and bleaching of cotton and wool.
2) Practice of dyeing of cotton and jute with direct dye.
3) Effect of time, temperature, water ratio and chemicals in dyeing.
4) Practice of dyeing of cotton with reactive, azoic, vat and indigo-sol dyes.
5) Practice of dyeing of woolen yarn/fabric with acid dyes, metal complex (Nulon) dyes.
6) Practice of dyeing of cotton with Ramazole dyes.
7) Colour fastness test to heat, light, sunlight, gas fumes, humidity, perspiration, rubbing, chemicals, washing, crocking and ironing on coloured natural fabric.

All practicals to be recorded in file along with procedures, analysis & samples.

(v) KNITTING TECHNOLOGY

TEXTILE SCIENCE

Paper-I **SAME AS GIVEN UNDER**

COMMERCIAL GARMENT DESIGNING AND MAKING

HANDFLAT KNITTING MECHANISM

Paper-II

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1) Past, present & future perspective of Knitting Industry.
2) Basic terminology used in knitting such as Gauge, Wales, Course, Knitted stitch, Neele loop, Sinker loop etc.
3) Diagrammatic presentation of Latch Needle, understanding its different parts and their functions.
4) Diagrammatic presentation of loop formation o flatch needle on V bed Hand Knitting Machine.
5) Diagrammatic presentation of weft knitted stitches such as plain, rib and tuck.
6) Diagrammatic presentation of cam system of V bed Hand Flat Knitting Machine.
7) Operations and function of different cams of cam system of V bed Hand Flat Knitting Machine.
8) Setting of stitch length on a Hand Flat Knitting Machine.
9) Knitting process of welts and function of welts.
10) Knitting process of 1 x 1 rib and plain fabric.
11) Knitting defects, their causes & remedies on Hand Flat Knitting Machine.
12) Maintenance of Hand Flat Knitting Machine.

HAND FLAT KNITTING MECHANISM
PRACTICAL

Time : 3 hrs. **Marks : 50**

1) Identification and functioning of different parts of Hand Flat Knitting Machine.
2) Description & diagrams of Cam set, different parts of Cam set & their functions.
3) Method of putting and replacing of Needles.
4) Adjustment of brushes, method of feeding yarn and setting of feeders on Flat Knitting Machine.
5) Jobbing on and Running on operation on Flat Knitting Machine.
6) Starting sequence of the machine for knitting.
7) Knitting of plain fabric on Flat Knitting Machine.
8) Setting of Stitch Quality or Stitch Length on Flat Knitting Machine.
9) Knitting of 1 x 1 & 2 x 2 rib on Flat Knitting Machine.
10) Transferring of loops from one needle bed to another needle bed with the help of Decca and knitting of single bed fabric.
11) Knitting of Decca design and Tuck design.
12) Knitting of Half cardigan and Full cardigan fabric.
13) Knitting of Half milano and Full milano fabric.

14) Knitting of panels of front, back and sleeves for making :

i) Pull Over.

ii) Slip Over.

iii) Ladies Cardigan.

All practicals to be recorded in file along with procedures, analysis & samples.

Visit to reputed knitting industry/knitting technology institutes-craft melas and report writing for the same.

HAND DRIVEN CIRCULAR KNITTING

Paper-III
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Classification of Knitting Industry
   i) Socks Knitting Industry
   ii) Under Garments Knitting Industry
   iii) Outerwear Garments Knitting Industry.
2. Socks Knitting Machine its different parts and their uses.
3. Cylinder Cam Set of hand driven socks machine, explanation of its different parts and their functions with diagram.
4. Dial Cam Set of hand driven socks machine, explanation of its different parts and their functions with diagram.
5. Looping elements-Needle, Sinker and Verge.
6. Jobbing on, running on operation of circular knitting.
7. Diagrammatic presentation of loop formation of latch needle on circular knitting machine.
8 Showing diagrammatically different parts of socks (welt, rib top, leg part, heal part, foot part and toe part).
9. Method of formation of welt on hand socks knitting machine.
10. Method of knitting rib with the use of dial.
11. Method of knitting heal and toe.
12. Method of making complete socks a with elastic rib top and 1x1 rib top.
13. Toe closing (i) Linking (ii) Over locking.
14. Defects that occur during circular knitting and their causes and remedies.
15. Different types of articles can be produced on hand driven knitting machine such as Mitins, Socks, Stockings, Gloves etc.

HAND DRIVEN CIRCULAR KNITTING

PRACTICAL

Time : 3 hrs. **M. Marks : 50**

1) Identification of various parts of socks machine.
2) Tools and accessories used in circular knitting and their uses.
3) Identification and function of cylinder cams.
4) Identification and functions of dial-cams.
5) Dissembling and assembling of the cam system of socks machine.
6) Raising and Lowering of dial and time setting.
7) How to adjust the stitch length and yarn guide of the machine.
8) Method of starting machine with jobbing on method and running on method.
9) Knitting of welt and 1 x 1 rib.
10) Method of knitting heal and toe
11) Knitting of full socks.
12) Knitting of stockings.
13) Method of linking of toe portion.
14) Method of Pressing, Labeling, Folding and packing of finished product.
15) Size chart of socks.

All practicals to be recorded in file along with procedures, analysis & samples.

IV ENGINEERING & TECHNOLOGY GROUP

(i) MAINTENANCE AND REPAIR OF ELECTRICAL DOMESTIC APPLIANCES

Paper I. **BASIC ELECTRICITY**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Introduction

What is electricity and its sources. Definition of Resistance, Voltage, Current, Power, Energy and their units, Factors affecting resistance of a conductor. Temperature coefficient of resistance. Difference between ac and dc voltage.

2. D.C. Circuits :

Ohm's Law Relation between voltage and current in a dc circuit. Series and parallel resistance circuits, and their equivalent resistance. Series-Parallel resistance circuits, calculation of equivalent resistance. Kirchhoff's laws and their applications.

3. Batteries

Primary cell, dry cell, battery, series and parallel connecion of cells, Secondary cells, Lead Acid Cell, discharging and recharging of battery common charging methods, care and maintenance of secondary Battery Sp[ecifications of a cell Battery.

4. Heating and Lighting Effects of Current:

Joul's Laws of electric heating and its domestic applications, heating efficiency Lighting effect of electric current, Filaments used in lamps, lamps and gas discharge lamps, their specifications, working and applications.

5. Capacitors :

Capacitor units and capacity. Concept of charging and discharging of capacitors. Types of capacitors and their use in circuits. Series and parallel connection of capacitors Energy stored in a capacitance.

6. Electromagnetic Effects :

Permanent magnets and Electromagnets their construction and use. Patarities of an electromagnet and rules for finding them. Faraday's Laws of Electromagnetic Induction and applications. Dynamically induced e.m.f., its magnitude and direction. Static e.m.f., its magnitude and direction. Static induction, self induced e.m.f. its magnitude and direction. Inductance and its unit. Mutually induced e.m.f. its magnitude and direction.

7. A.C. Circuits :

Principles of Generation of A.C. voltage and wave shape Cycle, frequency, peak value (maximum value) average value, instantaneous value, r.m.s. value Introduction to resistance, capacitance and induction. What is inductive reactive and capacitive reactance phase, phase difference, power factor (leading and lagging). Impedance, impedance of R.L. & C, A.C Circuits with (i) resistance and inductance, (ii) resistance and capacitance (iii) Resistance, inductance and capacitance in series.

8. Measuring instruments :

Working principles of moving iron and moving coil voltmeters and ammeters, Dynomometer type wattmeter, Otim meter, Megger and Induction type Energymeter, their circuit connection and application for measurement of electrical quality.

9. Electrical Wiring

Types of wiring - Introduction to casing and caping conduit wiring their procedure systems. Factor for selection of a particular wiring system. Importance of switch, fuse, change over switch and earthing of wiring system. Types of faults, their causes and remedies. Methods of finding numbers of circuits and circuit distribution by distribution board system. Indian Electricity Rules (IER) related to wiring. Introduction to submeters and their installation in Inverter wiring.

Types of earthing - Plate Earthing, and pipe Earthing, their procedure and application.

Solar Electricity

Need of Solar Energy, Solar Photovoltic (SPV) Technology, advantage of SPV system, Solar Constant, formation of Solar Cells, SPV Module, Array and Applications of Solar Photovoltac System.

BASIC ELECTRICITY

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Measurement of current, voltage and resistane of the help of multimeter.
2. Verification of Ohm's Law.
3. Measurement of equivalent resistance of series combination of resistors.
4. Measurement of equivalent resistance of parallel combination of resistors.
5. Measurement of equivalent resistance of series-parallel components of resistors.
6. To verify Kirchhaff's current laws.

7. Charging a lead acid battery and to test its state of charge.
8. Study of series and parallel capacitor circuits.
9. Study of series and parallel resistor circuits/lamps.
10. Study of R.L. series circuit and measurement of impedence, power and power factor.
11. Study of R.C. series circuit and measurement of impedence, power and power factor.
12. Study of R.L.C. series circuit and measurement of impedence, power and power factor.
13. Connections of Ammeter, Voltmeter and Wattmeter in an A.C. circuit of resistive load.
14. To test a single phase energy meter with the help of standard wattmeter and stop watch with resistive load.
15. Controlling low voltage lamps in series.
16. Controlling lamps from two or three places.
17. Drawing schematic diagram of single phase supply to consumers.
18. Drawing schematic diagram of three phase supply to consumers.
19. Practice on CTS/TRS (Batten) wiring with 2 fans, 4 lamps, 2 tubes and 4 plug points.
20. Practice on conduit wiring.
21. Polarity (means phase and neutral testing) test of wiring installation.
22. Measurement of insulation resistance of wiring installation by megger.
23. Testing of wiring in stallations with the help of megger.
24. Installation of pipe earthing for wiring installation.
25. Study of plate earthing for wiring installation.
26. Testing faults of wiring installationa nd rectification.
27. Installation of a sub-meter between a given electrical wiring.
28. Measurement of open Circuit Voltage and short circuit current of a PV Module.
29. To study/Install a Solar Street light System.

Paper II **ELECTRICAL DOMESTIC APPLIANCES**

Time: 2 hrs **Theory Syllabus**

Theory: 30 Marks
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Introduction to Single phase supply :

Introduction to phase neutral earth, voltage between phase and neutral, phase and earth common faults as like open circuit, shot circuit and earth fault. Series testing board and its uses.

2. Electric Room Heater :

Construction and working principle of Reflector type room heater, common defects, testing and repairs.

3. Electric Iron :

Types of electric iron-ordinary type and Automatic/Thermostat control type, steam iron. Constructions and working principles of electric irons. Common defects, testing and repairs.

4. Electric Stove :

Types of electric stoves-coiled types, hot plate/oven. Construction and working principles of electric stoves. Common defects, testing and repairs.

5. Electric Toaster :

Types of toaster- Ordinary and Automatic. Construction and working principles of electric toasters. Common defects, testing and repairs.

6. Immersion Heater and Gyser :

Construction, working principle and use of immersion heater. Common faults, their causes, testing and repairs.

Construction, working principles and use of Gyser, Common defects, their causes, testing and repairs. Testing and installation of Gyser. Precautions in using immersion heater and gyser.

7. Electric Kettle :

Construction, working principle and use of Electric Kettle. Common faults, their causes.

8. Table Lamp, Low Voltage Night Lamp and Tube Light :

Constructions, working principles and uses of Table Lamp, Night Lamp and Flourescent Tube (Tube Light) Common faults and their causes, testing and repair. Study of CFL (Compact Flourescent Light) and LED (Light Emitting Diode).

9. Electric Bell, Buzzer and Door Chimes :

Constructions, working principles and uses of Electric Bell, Buzzer and Door chimes. Common faults and their causes testing and repair.

ELECTRICAL DOMESTIC APPLIANCES

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1) Fabrication of a control panel board with meters and series test lamp for testing of electrical appliances.
2) Fabrication of a mains lead with three pin plug and iron connector.
3) Dismantling and reassembling of reflector type room heater.
4) Testing and repair of reflector type room heater.
5) Dismantling and reassembling of Electric iron (i) ordinary types and (ii) Automatic/Thermostat control type.
6) Testing and repair of Electric iron (i) Ordinary type and (ii) Automatic/ Thermostat control type.
7) Dismantling and reassembling of Electric stove (i) Coiled type (ii) Hot plate (iii) Oven.
8) Testing and repair of Electric Stove (i) Coiled type (ii) Hot plate (iii) Oven.
9) Dismantling and reassembling of Electric Toaster (i) Ordinary and (ii) Automatic.
10) Testing and repair of Electric Toaster (i) Ordinary and (ii) Automatic.
11) Dismantling and reassembling of Gyser.
12) Testing and repair of Gyser.
13) Dismantling and reassembling of Electric Kettle.
14) Testing and repair of Electric Kettle.
15) Connections of a fluorescent tube.
16) Testing and repair of (i) Table Lamp (ii) Night Lamp and (iii) Tube Light.
17) Testing and repair of (i) Electric Bell (ii) Buzzer and (iii) Door chimes.
18) Febrication of an extension cord for three plug points with independent controls.

Paper III **MARTERIALS AND WORKSHOP PRACTICE**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Safety Precautions and Shock Treatment :

Familarise the students with shop discipline, Layout of shops, Safety precautions. Use of fire fighting equipment. First Aid practice. Causes of electric fire and electric shock. Precautions to avoid electric fire and electric shock. Procedure for removal of person from contact of live wire. Treatment for electric shock and burns as per IEI rules.

2. Common Tools

Familiarise the students with common tools, safe use of tools, their specification and applications.

3. Conducting Materials

Copper and aluminium as low resistivity materials, their electrical characteristics and applications. Electric resistance materials. Materials for lamp filaments and brushes. Tungsten, Nichrome, Euroka, Selenium and Carbon as high resistivity materials, their electrical characteristics and applications.

4. Insulating Materials :

Distinction between conductor, insulator and semi conductor, insulation resistance, dielectric strength, breakdown voltage, mechanical and physical properties and classification of insulating materials. Paper, plastic coated paper. Empire cloth Leatheroid Cotton and silk, Rubber, PVC Porcelain, Bitumen, Micro, Bakelite, Ebonite, Marble, Glass Asbestos, Fibre glass-their uses and applications insulating tapes, Sleeves, insulating and empragnating varnishes and points-their uses and applications.

5. Magnetic Materials :

Classification of materials as Fenomagnetic materials, soft and hard magnetic material, Mild steel, silicon steel, Mu-metal, Permalloy, Alnico as magnetic materials their properties and uses.

6. Structure Materials :

Iron Steel, Brass, Gun Metal and Aluminium as structural materials, their properties and applications.

7. Fuse and soldering Materials

Silver, copper, lead, Tin and alloys as fuse material, that properties and applications. Soldering and Brazing materials and tools. Procedure of soldering and brazing and precautionary measures.

8. Wiring Materials :

ICTP and ICDP main switches, Distribution Boards, Bustor, Conduit fittings and pipes, Battens, Round Block, Board, Switches Lamp holders, Ceiling roses, Plugs, Sockets, Wires, etc. used for different wiring.

9. Lubricants :

Solid, semi-solid and liquid lubricants-uses and applications.

10. Corrosion Protective Points :

Application of point for corrosion protection and precautions in pointing.

11. Transmission of Power :

Bell drive, Shaft drive, Gear drive, Chain drive, Friction drive and their application in domestic appliances.

12. Electrical symbols and blue print reading. Simple Domestic electric circuit drawing.

13. Construction and application of bimetallic relays and thermo-couple for control of temperature and current.

14. Introduction to Miniature Circuit Breaker (MCB) and Earth leakage Circuit Breaker (ELCB), Specifications and their use in electrical circuits.

MATERIALS AND WORKSHOP PRACTICE

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1) First aid box practice.

2) Identification of common tools.

3) To form two identical coils using insulated copper wire and aluminium wire of same gouge and same number of turns and compare their resistance.

4) To make coils of Nichrome and Eureka wires of equal lengths and gouge and measure resistance, current and power at a given voltage.

5) Identification of different insulating materials.

6) Practice on insulating (i) Slots and (ii) Cores of motors.

7) Insulating the coil winding with varnish.

8) Identification of structural materials parts.

9) Replacing a blown fuse of standard current rating.

10) Study the relationship between wire diameter and fusing current for instantaneous fusing.

11) Soldering practice.

12) Lubricating Technique practice.

13) Study of thermocoupled oven to control temperature.

14) Application of bimetallic relay to control temperature.

15) Use of on MCB in an electrical circuit.

16) Use of an ELCB in on electrical circuit.

(ii) REPAIR & MAINTENANCE OF RADIO & TELEVISION

Paper-I **BASIC ELECTRICONICS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Basic Electricity :

Electricity & its sources ac and dc concept of phase, frequency, graphical representation of ac and dc. Batteries, need of power supply, cells and batteries. Resistors, capacitors and types of resistors and capacitor. Component ratings and color order of resistors and capacitor, relationship between voltage and current. Ohm's law, Kirchhuff's Laws and their applications. Magnitism, Definitions of Electromagnatization electromagnetic induction, flux, permeability. Transformers; concept working principle and application.

2. Circuits :

Series, parallel and combination circuits of resistors, capacitors and inductors, LC, RLC, LC circuits and their applications.

3. Material Services :

- Conductors, Semiconductors and insulators P and N types materials their principles and properties.
- Thermistors - PNP, NPN, symbols, their functioning, Zener Diodes, FET and their applications.
- SCRs - Symbols, characteristics and uses, Diacs, Triacs and their uses. LDR, VDR and Thermisters and their uses.
- Integrated circuits - Introduction to IC's, Types (Audio, Vedio, Digital, Analogics) their advantages, limitations and applications.

Paper-I **BASIC ELECTRONICS**

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1) Drawing of Electronic/Electrical Symbols.
2) Freehand sketching of Electronic Components.
3) Tracing of given Electronic circuits.
4) Identification of components and devices.
5) Colour coding of resistors and capacitors.
6) Verification of Ohm’s Law (Relationship between Voltage and Current).
7) Verification of Kirchhoffes Laws.
8) Study and use of series and parallel Circuit of (a) resistance (b) capacitors.
9) Study of series and parallel Resonant circuits.
10) To check a transformer for primary and secondary voltages.
11) Fabrication of an extension board for Power supply and use of Line Tester.

Paper-II **ELECTRONIC CIRCUITS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Electronic Circuits

- Rectifiers-half wave, full wave and bridge type, their working. Capacitors as a Filter. Concept of 'T' and 'π' filters.
- Power supply regulators - Zener regulation, series and shunt regulators and IC regulators, voltage doubler and triples circuits.
- Amplifiers : Class A, B, AB and C their imput and output characteristics and efficiency (without derivations).
- Audio Amplifiers - Voltage and Power amplifiers used in Radio and TV Receivers.
- RF Amplifiers - General Principles, single and double tunnel RF and IF amplifiers used in Radio and TV Receivers.
- Orcillators-Concepts of Oscillators, types of orcillators such as Hastley, colpits, phase shift, wein bridge and crystal orcillators, circuits and their working. Feed back and its types, effect of negative feed back on gain, bond width noise and distortion.

2. Measuring Instruments

- Principle of voltmeter, ammetes, multimeter and digital multimeter their uses and applications.
- Cathode Ray Oscilloscope-Basic principle, use of CRO for measurement of voltage and frequency.
- Introduction to frequency- meter, wattmeters, energy- meter, capacitance meter. Use of signal Generator for tuning.

3. Tools

- Soldering Iron - Various types proper use and maintenance
- Desoldering tools
- Common tools used in servicing and assembly in electronic shop.

Paper-II **ELECTRONIC CIRCUITS**

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1) Measurement of alternating and direct voltages and currents with the help of voltmeter and ammeter.
2) Measurement of V, I & R parameters with the help of analog multimeter.
3) Measurement of V, I & R parameters with the help of digital multimeter.
4) Measurement of voltage & Frequency with the help of an orcilloscope.
5) Measurement of frequency with the help of frequency meter.
6) Testing of Diode, Transister, SCR, Zeener Diode, L & D and F & T with the help of a multimeter.
7) Graded exercises on soldering practice viz. tinned wire, PCB, lugs, connectors etc.
8) Fabrication of 3/6/9 volt simple DC power supply using half wave and full wave rectifiers. [Battery Eliminator]
9) Fabricationof a zeener regulated DC Power supply.
10) Fabrication of DC stabilized supply using series and shunt pass transistors.
11) Demonstration and study of Audio Frequency Amplifiers.

12) Demonstration and study of Radio Frequency Amplifiers.
Study and use of AF and RF signal generators for tunning of Transistor/radio receiver.
13) Using Signal Injection method of fault finding for servicing of electronic gadgets.
14) Demonstration of calpitts and weinbridge oscillators.

Paper-III **AM/FM RADIO RECEIVERS & FAULT ANALYSIS**
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. AM Radio Receivers :

Basic concepts of Radio transmission, Modulation, types, necessity and demodulation (no circuits & derivations). Charaderistics of a transmeter. Different modes of wave propagation.

Block diagram of radio receiver and its different stages.

2. FM Radio Receivers :

Basic principles and block diagram of FM receivers. Difference between FM and AM receivers.

3. Fault Analysis :

Introduction to systematic fault finding techniques,Sectionalization and signal injection and other such techniques. Typical case histories and exercises. Mechanical fixtures-Typical troubles and their remedy.

Paper-III **AM/FM RADIO RECEIVERS & FAULT ANALYSIS**
Time : 3 hrs. **PRACTICAL**
Marks : 50

1. Introduction to Electronic drafting :
   (a) Block Diagram.
   (b) Schematic Diagram.
   (c) Layout Diagram.
   (d) Wiring Diagram.
2. Identification of parts and sections of a medium wave transister/radio receiver.
3. Assembling a medium wave transistor/radio receiver.
4. Measuring voltages at different test points of a transistor/radio receiver.
5. Check waveforms at input and output parts of different stages with the help of CRO.
6. Alignment of IF stages.
7. Alignment of RF stages.
8. Fault finding in Mechanical fixtures viz. Dial Cord, Volume control, loud speaker etc.
9. Band switch wiring of a multiband radio-receiver.
10. Tracing the circuit of a given transister/radio receiver.

(iii) ENGINEERING DRAWING & DRAFTING

Paper-I **ENGINEERING DRAWING**

(PLANE GEOMETRY)

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

BASIC CONCEPT :

1. Introduction :

Description of drawing equipment/instruments and its use, technique for handling instruments, selection of equipment/instruments. Description of drafting machine and its usage.

2. Planning and layout of Drawings :

Need for planning, standard sizes of drawing sheets, margins, title blocks and material list according to IS 696-1972. Standard practice of following the prints and planning the working spaces of the drawing sheet.

Scales-simple and diagonal.

3. Lines, lettering and dimensions :

Different types of lines and their usage. Standard practices for writing with single storke with instruments and free hand vertical and inclined capital and lower case letters and numerals, also black lettering in the ratio 5.4, 7.4 vertical and inclined, Need of dimensioning. Principles of dimensioning, different systems of dimensioning. Arrangement of dimensions.

4. Geometrical Constructions :

Procedure of drawing plane geometrical figures like triangle, square, parallelogram, rhambus, circle and regular polygon, ellipse & parabola.

5. Projections of Solids :

Description of solids like cube, prism, pyramids, tetrahedron, cones and cylinders. Various positions of solids placed on ground or V.P. Projections of solids when axis is inclined to both the planes. (Use First and Third angle projection method).

6. Section of Solids :

Need for sectioning and sectional views. Horizontal Trace and Vertical Trace of cutting planes. Procedure of drawing sectional solids (cube, prism, pyramid, cylinder, cone) when solids rest on base. Procedure of drawing sectional views of solids when axis is inclined to one plane and parallel to other.

7. Orthographic Projections :

Meaning of H.P., Quardrants, I angle and III angle projection methods, Projections (Front, Top and Side of Simle block.

8. Symbols and Conventions :

Necessity of symbols & conventions , conventions for

(a) Bricks work, R.C.C., stone , wood, earth, rock, plaster, glass, fibre board, doors, windows, fencing, building, roads, railway lines, bridge canal, district, state and international boundary, Industry, School.

(b) Valve, pumps, screw theads, springs, knurling, holes on linear pitch circular pitch, gears, bearings, glass, gun metal, cast iron, mild steel, copper, aluminium, lead, zinc, white metal, brass, bronze, asbestos, rubber.

Buld, tube, fuse, earthing, plug, socket, switch, Main switch, cell, Battery, conductor, resistance, capacitance, inductance, ammeter, voltmeter, bell, buzzer, laud specker, fans, regulator, field poles, armature.

9. Fasteners

(a) Meaning / definations of pitch, crest, root, depth of threads, minor diameter & major diameter of screw thread.

(b) Freehand sketches of bolts, nuts, washers.

(c) Freehand sketches of riveted joints, butt and lap joints.

(d) Freehand sketches of studs, set screws and forms of threads like British Association , British standard, Whitworth, square, Butteres, Unified, Sellers.

(e) Freehand Sketches f locking nuts.

(f) Freehand sketches of foundation bolts like eya bolt, Lewis, Rag, Cotter.

(g) Freehand sketches of key like square, rectangular, sunk, flat & round, saddle Gib headed key.

10. Sectionalo orthographics projections :

Need for sectional views, procedure for drawing section views from the given orthographics projections of block.

11. Development of surface of solids :

Importance of development, list out the applications where developed surfaces are used.

Differentiate between parallel line and radial line development, Selection of proper methods of development, procedure for drawing the development of simple and truncated solids. Development of the surface of cube, prism, pyramid, cone, cylinder, and trustrum of pyramid and cones.

ENGINEERING DRAWING

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1 Use of Instruments :

Lines, lettering and Dimensioning

Geometrical Construction with write up of problems.

Projection of lines and plane figures (with write up of problems).

Projection of solids (with write up of problems).

Section at solids (with write up of problems).

(Minimum 25 sheets relating to above concepts.)

2. Orthographic (First angle and third angle)

Projection (first angle)

Projection (third angle)

3. Symbols and Conventions
4. Fasteners
5. Sectional orthographic projections.
6. Development of surfaces

Paper-II **BASICS OF BUILDING CONSTRUCTION**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Building Layout
2. Foundation.
3. Brick Masonry.
4. Damp Prevention.
5. Door and Windows.
6. Floors.
7. Stairs.
8. Roofs & RCC (Reinforced Concrete Construction).
9. Internal water supply, Sewrage System.
10. Plastering & Pointing.
11. Painting, Distempering and white washing.

BASICS OF BUILDING CONSTRUCTION

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Drawing of Foundation
2. Drawing of Brick Masonary (Diff. Types of Brick Bond).
3. Drawing of DPC (Damp Proof Course)
4. Drawing of Doors & Windows.
5. Drawing of Floors.
6. Drawing of Stairs.
7. Drawing of RCC Slab, Beam, Lintel, Chhajja.
8. Drawing of Internal water Supply & sewerage.

Note : Preparation of at least 15 sheets related to the above concepts.

Paper-III **WORKSHOP CALCULATION**

Time: 3 hrs **Theory** **Theory: 80 Marks**

Syllabus **CCE : 10 Marks**

Total: 90 Marks

Basics :

(i) Log and its application.

(ii) Mensuration Area and volume of plance and solid figures, i.e. Triangle, quadrant,circle, cube, cylinder, cone, pyramid, prism and their application, calculation of weight of various products of related cost.

(iii) T-ratio and its simple application.

SC IENCE :

Unit of weight length, time and temperature, M.K.S., E.P.S and S.I Units and their conversion.

Simple Machines :

Calculation of Mechanical Advantage, Velocity ratio and efficiency of simple machines.

Design :

Simple stress, strain, hoks law, Modulus of elasticity, stress - strain -elastic limit, yield point, ultimate stress and breaking stress. Factors of safety, load due to impact and their simple numerical problems.

Design of Rivertted Joint : lap and butt joint according to ISI code.

Design of nul and bolt (square and hexagonal) according to ISI code Design of stair case.

Design of simple spread footing foundation for basing on thumb rule method.

(i) Partition wall/boundary wall

(ii) Load bearing wall (One brick, one and a half brick and two bricks)

(iii) Pillors (One brick and on e and a half brick)

Definitions :

Coping, Parapet, drip course Line Gola, Terrace, Carnice, slab, R.C.C. lintel, R.C.C. chhajja, string course, plinth level, D.P.C., Footing, Offset, Foundation blocks, Basement, Groundfloor, 1st floor, 2nd floor, third floor, fourth floor.

(iv) MECHANICAL SERVICING (Genl.)

SYLLABUS

Paper-I **LATHE MACHINE AND OPERATIONS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. INTRODUCTION TO BASICS :

Simple sketches of mechanical hand tools. Brief description of machine tools and equipments. Different types of operations by different types of machine tools (only name and diagrams). Safety precautions in using machine tools.

2. INTRODUCTION TO LATHE :

Lathe, centre lathe, General purpose lathe machine, Types of lathe machine. Specification of lathe machine, safety rules of the workshop. Principle of Lathe.

3. LATHE MACHINE PARTS :

Study of various lathe parts and sub assemblies of the lathe & their functions, Accessories viz. Lathe centers, face plate, dressing plate, angle plate, three jaw chuck, four jaw chuck, collect, mondrel, steady rest, moving rest, Tail stock, taper turning attachments. Description of the above accessories giving their sketches.

4. CUTTING TOOLS :

Cutting tools geometry of single point cutting tool, various angles and their values for cutting different metal jobs, Classification, types of cutting tools. Special purpose tools viz. facing tool,parting off tool, threading tool. Boring tool, knurling tool, Tool material, classification, composition, properties and application of High carbon steel, High speed steel, carbide, ceramic and diamond.

5. LATHE MACHINE TERMINOLOGY

Taper, Taperturning, use of taper, Explanation of taper, Calculations for taper, conicity : Speed, Feed, Depth of cut.

6. LATHE OPERATIONS :

Centring, Simple Turning, Stepturning, Facing, Drilling, Boring, Tapering, knurling, Parting off Taper, chamfering, Finishing.

7. CALCULATIONS FOR THREAD CUTTING :

Explanation of simple gear train and compound gear train. Calculation for change wheels meterics thread on English lead screw. Cutting multiple threads. Brief description with dies feed gear box.

8. TURRET AND CAPSTAN LATHES

Difference between centre, capston and turret lathes. Specifications scope and applications of turret and capston lathe in production shop. Machine details such as head stock, work holding devices, turret head, stops and trips, tools and equipments, turret and capston lathe accessories, tool layout operations.

LATHE MACHINE AND OPERATIONS

Time : 3 hrs. **PRACTICAL** **Marks : 50**

I. Holding of job in four jaw chuck, contering with the help of check method, scriber and cutting tool.

II. Setting the tool in tool port : Plain turning, facing and parting off M.M.S Dies as per given dimensions by teacher.

III. Step turning on M.S. Bar, as per dimensions given by teacher.

IV. To do grinding of single point cutting tool according to specific geometry.

V. Taper turning and knurrling and chamfering, threading.

VI. Drilling and Boring.

VII. To practice on dismantling and assembling of different accessories and case and maintenance of lathe machine.

VIII.

Paper-II **ENGINEERING MATERIAL**

Time: 2 hrs	**Theory Syllabus**	**Theory: 30 Marks** **CCE : 10 Marks** **Practical : 50 Marks** **Total: 90 Marks**

I. INTRODUCTION :

Materials classification - Metals, Ferrous and Non ferrous, Metals and Non metals. Different non-metals - plastic-rubber and wood.

II. PROPERTIES OF MATERIALS

Physical and mechanical properties. Physical properties as colour, weight etc.

Mechanical properties as Strength, elasticity, plasticity, ductilities britlness, moleability, hardness, toughness. Technological properties, Machinability, For mability, Welderbility Measurement of hardness-brinell and Rockwell.

III. FERROUS METALS

Mineral ores, Different types of ores of metallurgical. Definitions, Description of pig iron. Process, working of Blast furnance, typed cast iron, wrought iron: composition, Properties and uses. Steel: composition, properties and uses.

IV. STEEL AND ALLOYSTEEL :

Introduction: Composition of MS in %age of properties and uses of steel manufacturing of carbon steel. Basic constituents of steel, Iron-Carbon equilibrium Diagram, Composition, properties and uses of special alloy steel such as - chromium, nickel, stainless steel High carbon steel, High speed steel, Molybdenum, tungsten and vanadium steel.

V. HEAT TREATMENT

Definition, Advantages of Heat treatment, Effect of heat on steel, methods of heat treatment i.e. Normalising, Annealing, Hardening, Tempering, case hardening, cyaniding, Nitriding, Flame hardening etc.

VI. MECHANICAL WORKING OF METALS

Introduction, Mechanical working (Process), Hot working, Principle methods of hot working i.e. Roling (Hot and Cold) Drawing, extracting and Forging (only drop Forging).

VII. SHEET METALS AND PIPE FITTINGS

Introduction, Types of sheets, thickness of sheet metals, (in mm and in gauge No.) uses of Sheet metal (as required). Layout of sheet metals 4 No.s-Pipe Fittings only discription.

VIII. NON FERROUS METALS AND ITS ALLOYS :

Simple introduction properties and uses viz. copper and Aluminium.

IX. ANOTHER IMPORTANT ENGG. MATERIAL

Rubber, Plastic, thermoplastic and thermo setting plastic their properties and application, Rubber, Ceramics, wood their applications.

X. QUALITY CONCEPT

Definition of term "Quality" Introduction to quality standards according to BIS viz. 1S.14000 (1SO-9000)

ENGINEERING MATERIAL

Paper-II **PRACTICALS**

Time : 3 hrs. **Marks : 50**

1) To identify and distinguish between different Engineering materials based on observed, Physical properties- Make a write up.
2) To distinguish between the metal steel, cast Iron and high speed steel by spark pattern test on a grinder.
3) To Anneal a chisel.
4) Case carborising by hardening powder.
5) Hardening of carborised job by waterquenching and oil quenching.
6) Tempering of hardened job.
7) To make a funnel and weld/solder its joint.
8) Practice on cutting of pipes and make joint of two pipes by socket.

At least two visits to selected industry to give the practical, exposure to students.

Paper-III **ENGINEERING DRAWING**

Time : 3 hrs. **Practical Syllabus** **Practical: 80 Marks**
CCE : 10 Marks
Total: 90 Marks

1. INTRODUCTION OF DRAWING INSTRUMENTS & THEIR USE :

Basic concept of Drawing & Engineering Drawing, Lists of instruments used in Engineering Drawing. Brief knowledge about the instruments. Practice to use all the instruments, Materials used in Drawing. Size of sheet and layout of sheet. Standard sizes of drawing sheets, margine title block etc.

2 GEOMETRICAL CONSTRUCTIONS

Introduction, definition of points, lines, angles, Review of geometrical constructions such as dimensions of straight line and angle. Triangle, quadrilateral, Polygen, circles, to draw parallel lines. To draw perpendiculars, different patterns, tangents- External and internal (minimum 40 cons).

3. LINES AND LETTERING AND DIMENSIONS CONVENTIONS :

Lines, materials, solids, Breaks, Conventional representation used in engineering Standard practice for writing single stroke and double stroke in 7:4/6:5. (Note - At methal stage graph paper may be used after some practice student should bear to draw graph.)

Standard practice for numerals dimensioning.

4. SCALES

Representative Factor, simple, reduced & Enlaged scale, diagonal and vernier scales.

5. FREE HAND SKETCHING :

Lines, Circles, Suqares, rectangles, areas and curves. Diagram of Solids i.e. Round, cube, rectangular block, Cylindricl block, Cone, Prism, Hoxeagonal etc. Free hand sketch of locking devices, washer, spring washer, keys etc.

6. ORTHOGRAPHIC PROJECTIONS

Concept of projections, First angle and third angle projections

Simple Examples of orthographic projections of Point, Line & Planes where the Lines are parallel to one of the plane Sketching orthographic views from pictorial views. Orthographic projections of simple machine elements. Orthographic projections of Nut & Bolt (Square as well as hexagonal).

(V) FURNITURE MAKING AND DESIGNING
Furniture, Furnishing and Finishing Materials

Paper-I
Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Qualities and use of common timber, various types, characteristics, standard size, cost, selection anduse of various types of timber used in furniture making.
2. Structure (Cross secton) of wood, various parts and their functions.
3. Conversion of timber.
4. The defects in wood and remedial measures.
5. Decay of wood, causes and preventive measures.
6. Methods of seasonng and preservation of timber.
7. Standard commercial sizes of wood and their economical use.
8. Characteristics, cost, selection and use of plywood, hardboard, block board, particle board and their suitability in furniture making.
9. Oil paints, constituents and functions, characteristics, covering capacity and polishing techniques.
10. Varnish and polish: Constituents, characteristics, covering capacity and polishing techniques.
11. Chemical preservatives, their use and importance.
12. Canes: different types, characteristics, costs, patterns and methods of cane work.
13. New furniture materials, Acrylic, Fibre glass, leather, plastic and base materials.
14. Knowledge regarding latest ready to use finishing materials available in the market.

Paper-I **FURNITURE, FURNISHING AND FINISHING MATERIALS**
Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification of timbers :
2. Identification of defects and diseases in timber.
3. Practice in making oil paints from given ingredients.
4. Practice in making spirit polish.
5. Practice of painting.
6. Practice of polishing old and new furniture.
7. Market survey of latest furniture materials availability in the market.
8. Practice with latest ready to use finishing materials available in the market.

Paper-II **TOOLS AND PROCESSES**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Workbench : elements and uses of a workbench.
2. Different types of devices, their selection, characteristics and precautions while using.
3. Description, care, maintenance and use of common hand tools and common sheet metal tools.
4. Tools and gauges used in measuring and marking, their identification and use.
5. Different types of chisels and gauges, their characteristics, uses, precautions in using, sharpening chisels and planes spoke shaves and other sharpening tools like surforms and rasps.
6. Different types of saws, their characteristics, selection and use, precautions, maintenance and repair, Techniques of sawing.
7. Various types of clamping and gripping tools, their characteristics, use and selection.
8. Tools used in driving and pulling nails, their selection, precautions and techniques used in driving and removal of nails.
9. Various types of metal & wooden plants including special purpose planks, their characteristics, selection, uses, precautions, maintenance, cost and availability Techniques of planeing.
10. Techniques of finishing wood by using scraper, abrasive papers and files.
11. Various types of screw drivers, their selection, use and precautions.
12. Various types of drilling tools, their selection, use and precautions while drilling.
13. Description, use and importance of butt joints and lap joints, mortise and tenon joints.

Paper-II **TOOLS AND PROCESS**

Time : 3 hrs. **PRACTICAL** **Marks: 50**

1. Shop-Floor instructory: Identification of different types of timbers. Identification, care, maintenance of tools and their parts and safety measures to be observed.

2. EXERCISES:

Ex.1. Marking and sawing practice.
Ex.2. Planeing practice.
Ex.3. Chiselling practice
Ex.4. Preparation of lap joint.
Ex.5. Preparation of mortise and tenon joint.
Ex.6. Sanding and finishing practice.

3. Preparation & Polishing of the following :

1)	Name Plate,	2)	Simple Notice Board,
3)	Book Rack,	4)	Prayer Unit/ Puja Unit with Drawer
5)	Table	6)	Cushioned stool

Paper-III **FURNITURE DESIGN**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

1. Design : Definition, attributes, composition of design, factors influencing design : climate, utility social and economic conditions.
2. Introduction to colours and colour schemes.
3. Sizes of furniture as related to human body, working levels, viewing level for different purpose as per standard designs and practices.
4. Planning : Principles of furniture set up for a given space, functional utility and aesthetics.

Paper-III **FURNITURE DESIGN**

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. At least 15 sheets regarding furniture design should be prepared.
2. Preparation of furniture album with the help of sales literature, newspaper cuttings & allied materials.
3. Preparation of design for the following furniture items :

   Name plate, simple notice board, side board, table, stool, chair without arms, table with drawers, box type settee, Black Board, Notice Board with glass panels.
4. Preparation of design, for the following furniture items with steel structures.
   1) Chair with & without arms.
   2) Study table
   3) Bench
   4) Desk
5. Visits to local carpenter workshops/showroom (at least 4 visits).

(VI) MECHANICAL SERVICING (AUTO)

Paper-I **ENGINEERING DRAWING**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

PART-A

1. Introduction to Engineering drawing, care and use of drawing instruments and material.
2. Free hand lettering on graph paper.
3. Different types of Engineering lines as per I.S.I. specifications. Practice in free hand sketching of vertical, horizontal & inclined lines & geometrical figures such as-triangle, rectangles and circles, polygon, construction of ellipse, parabola and involute of a circle.
4. Conventional representation of different material in sections e.g. shaft, hollow pipe, rectangular, square, angle, channel, I-section etc.

PART B
WORKSHOP PRACTICE

5. Description of hand tools used in outomobile shop. Precautions observed in a workshop.

6. Drawing sheets of 1st angle and 3rd angle projections of solids.
7. Introduction to rivets and its types. Concepts of auto CAD (Computer Added Design).
8. Description of measuring tools and instruments like outside calliper, inside calliper, vernier calliper, outside micrometer, inside micrometer, Dial gauge, marking block and gauge. Try square, Bevel protector, bench centre, depth gauge, compression gauge, pressure gauge.
9. Surface plate, sue of open end spanner, ring spanner, box spanner, sockets, torque, wrenches, adjustable spanner, Alien Key wrench.
10. Introduction to paints.

ENGINEERING DRAWING

Time: 3 hrs **Practical** **Pracatical: 50 Marks**

Syllabus

1. Use of the hand tools, measuring tools and measuring instrument used in workshop.
2. To practice efficient use of files by producing plane surfaces, straight edges of right angle, fillets and round corners.
3. To leam efficient and accurate use of Hacksaw cutting.
4. To make a V notch on a flat surface using chipping method.
5. To learn marking a job using a surface plate, V-block and marking gauge.
6. Fitting a square hole in a M.S. flat.
7. Extraction of a broken stud.
8. Use of hand tools and equipment used in painting and denting.
9. Visit to a nearby mechanical workshop.

Paper-II **AUTOMOBILE ENGINE**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Technical terms :

Define Automobile Engine, Power, H.P., I.H.P., B.H.P., F.H.P. Diesel cycle,Auto cycle, stroke, TDC, BDC, Compression Ratio, Swept volume, Clearance volume, Total volume, Mechanicl efficency. Pressure, Heat, Temperature.

2. Engine :

Classification-principle, basic engine operations, 4-stroke, & 2-stroke cycle engine & their difference, spark & compression ignition and their difference.

3. Engine Construction & Mechanism :

Cylinder blocks, crank case, cylinder liner, cylinder head, parts and manifolds, Piston, piston pin, piston ring, connecting rod, crankshaft, cam shaft, flywheel and valves.

Ignition system :

Magneto and battery ignition & their difference study of batteries, capacitor discharge ignition system, Distributor, ignition coil, spark plugs, ignition timing, firing order.

4. Fuel system :

(a) Petrol: Fuel line diagram, fuel feed pump, carburettor-function and working principles, air filter, fuel gauge, inlet and exhaust manifold. Introduction to MPFI system (Multi Point Fuel Injection Systems).

(b) Disel: Fuel line, diagram, fuel-injection pump, pressure pipe, fuel injector. Introduction to CRDI (Common Rail Direct Injection System).

5. Engine Cooling system :

Cooling requirement, cooling systems, air cooling and liquid cooling, water jacket, coolant pump, cooling fan, radiator, pressure cap, introduction to thermostat.

6. Lubrication system :

Principles, functions, properties of lubricating oil. Introduction to SAE rating, lubricating system, crank-case ventilation, oil filtor, oil pump (gear type and electrical) oil pressure gauge.

Introduction to Charging and starting system :

AUTOMOBILE ENGINE

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1) To study the construction and working of a two stroke single cylinder air-cooled petrol engine using a sectional model.
2) To study the construction and working of a four stroke single cylinder air-cooled petrol engine using a sectional model.
3) To study the construction and working of a two stroke single cylinder air-cooled diesel engine using a sectional model.
4) To study the construction and working of a four stroke single cylinder air-cooled diesel engine using a sectional model.
5) To study the construction and working of a four stroke four cylinder in-line water cooled petrol engine.
6) To study the construction and working of a four stroke four cylinder in-line water cooled diesel engine.
7) To study the construction and working of (a) fuel pump (b) carburettor.
8) To study the construction and working of lubricating oil pump.
9) To study the construction and working of (a) F-I-pump (b) fuel injector.
10) To study the construction, working and details of maintenance of distributor assembly.
11) Battery Testing
12) Spark plug cleaning and adjusting its gap.
13) Carburettor servicing.
14) Removal, cleaning & refiting of air cleaners.
15) Replacement of cylinder head gasket.
16) Cleaning of fuel tank and oil sump and refilling.
17) To study & sketch the fuel supply system of a multicylinder diesel engine.
18) Check engine compression.
19) Precautions to be observed before and after starting the engine.

Paper-III **TRANSMISSION SYSTEM**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Classification of autombile, chassis layout of conventional motor vehicle, front-wheel drive, rear engined vehicle, four wheel drive.
2. Clutch : Function of clutch and its principle of working. Types of clutch, constructional details of single plate and multi-plate clutches, Centrifugal clutch, fluid, fly wheel, clutchining. Trouble shooting of clutch and its adjustments.
3. Propeller shaft and universal joints, Function of propeller shaft and its constructional details,
4. Gearbox : Necessity of a gear box, types of gears used, types of gear boxes-sliding mesh, constant mesh, synchro mesh, constructional details of Gearbox, Gear selector mechanism, over running drive, trouble-shooting of gearbox and its adjustments.
5. Hotch kiss drive and torque-tube drive arrangements. Function of universal joint, types of universal joints, their constructional details.
6. Differential : Function of differential and its constructional details. Working principles of differential, differential lock, trouble-shooting of differential and its adjustments.
7. Rear Axle : Function of rare axle and its types, constructional features, trouble-shooting and adjustments.

Paper-III **TRANSMISSION SYSTEM**

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. The dismount of single plate dry friction clutch from a vehicle. Dismantle, clean the components, inspect report on the condition, repair, reassemble, adjust and remount on the vehicle.
2. To dismount the propeller shaft assembly with universal joints from a vehicle, dismantle, clean, inspect report on the condition, repair, reassemble and remount on the vehicle.
3. To study the chassis layout of two wheeler, three wheeler and 4 wheeler.
4. Flushing and refilling of transmission oil.
5. To dismount and dismantle the gears of a constant mesh gear box from a vehicle, clean, inspect report on the condition, repair, reasonable, remount and adjust.
6. To dismount and dismantle the synchro mesh, gear-box from a vehicle, clean the components, inspect report on the condition, repair, reassemble and adjust.
7. To dismount the differential unit from a vehicle, dismantle, clean, inspect report on the condition, repair, reassemble, preloading of drive pinion and refit on the vehicle.
8. To dimount the rear axle shafts from a 4 wheel drive, dismantle wheel bearings, oil seals, clean, inspect report on a condition, repair, reassemble, carryout pre-loading adjustment and complete the assembling of oil the components removed.

(vii) COMPUTER TECHNIQUES

Paper-I **COMPUTER FUNDAMENTALS**

Time: 2 hrs **Theory** **Theory: 30 Marks**
Syllabus **CCE : 10 Marks**
Practical : 50 Marks
Total: 90 Marks

Instruction to Computers : Definition, Application of Computers, Characteristics of Computer, Types and generation of Computers, Basic Structure of Computer, Specification of Computer, Data representation within Computer - Bits, Bytes, Kilobytes, Gigabytes, Number System, Memory, Primary memory - RAM, ROM, Secondary memory with respect to structure and file organization - Floopy disk, Hard disk, CD-ROM, Zip Drive, Magnetic tape.

Input/Output Devices : Input Devices-Keyboards, Mouse, Touch Screen, Scanner, Joystick, Output Devices - VDC, Printers.

PROGRAMMING CONCEPTS AND OPERATING SYSTEM

Comparative Study of Computer Languages : Machine Language, Assembly Language, High Level Language, 4GL, Translator,Compiler, Interpreter, Assembler.

Programming Concept & Flow Charting : Problem analysis and problem solving techniques, Algorthm, Flowcharts (detailed practice exercises on mathematical and commercial problems) programming and programming techniques, Pseudo codes.

Operating Systems : Definition, Functions, Different Types of OS, Comparative study of OS, Batch Processing : Multi programming, Time sharing; Real time.

Ms-DOS : Internal Commands - their syntax with options and meaning, limitations and use, External Commands - their syntax with option and meaning, limitations and use (FORMAT, BACKUP, RESTORE, CHKDSK, XCOPY, DISKCOPY, DISKCOMP, ATTRIB, UNDELETE).

MS-WINDOWS AND INTERNET

Ms-Windows 2000/XP (or latest version) : The Windows 2000/XP Environment, Desktop Elements, Active Desktops, Changing the Clasic Desktop to Active Desktop, Built-in Toolbars, Starting Programs. The Start Button, Starting from Shortcuts, Starting from My Computer or the Windows Explorer, Working with Windows, Using Menus and Dialog Boxes, Classic Style and Web Style, Choosing a Navigation Style, Mouse Actions with Classic style and Web style, File Tasks, To see What Files are in the Folder Using My Computer, To see what files are in the folder using Windows Explorer, To Create a Folder, To Rename Files or Folders, To Delete Files or Folders, The Recycle Bin, To Retrieve Deleted Files or Folders, To Find a file, Disk Tasks, To Format a Floppy Disk, To Copy a Floppy Disk, Scandisk, Disk De-fragmentation, Application Tasks, To Start a Document from the Start Menu, Shortcuts, To Add an Application to the Start Menu, To Run Programs and Documents Automatically at Startup, To Print a File, Print Manager, To install a Windows Application, To Remove Applications,System Settings, To Set the Date & Time, To Change the Formats of Number, Currency, Date and Time, To install and Delete Fonts, To Customize a Mouse, To Change Display Properties.

Internet : What is Internet ? Connection methods, Types of Connections, ISPs, Internet configuration, Browsers - Microsoft Internet explorer, Netscape Navigator.

E-mail : What is e-mail ? Advantages and disadvantages, Sending and receiving messages, Checking mail, Reading Mail, Replying Mail, E-mail software-Outlook Express, Eudora.

Internet Applications : Voice mail, Chatting, Discussion forums, Newsgroup, Entertainment, Information searching, Online education.

MS-WORD AND MULTILINGUAL LEAP OFFICE

Intdroduction to word processing : Starting MS-WORD, Introduction to menus, sub-menus and tools, Creating a document, Opening a document, Saving a document, Navigation of cursor, Editing text, Formatting text, Viewing documents.

Formatting Document : Line spacing, Paragraph spacing, Setting Tabs, indenting Text, Aligning text, Adding headers and footers; Numbering pages; Inserting a table, Proofing a document, Spell-check utility, Automatic spell-check, Auto text, Auto correct, Printing a Document, Mail Merge.

Leap Office : Need of multilingual software, multilingual software package in detail, Concept of transliteration, Hardware requirements of multilingual software, Installation of different language fonts, Study Key Board layout.

MS EXCEL

Introduction to Ms-Excel

Starting Ms-Excel

Opening a Worksheet

Saving a Worksheet

Spread sheet operations

Entering Numbers, Text, Dates and Time, Formulas

Editing the Worksheet

Deleting Cells, Rows, Columns

Inserting Cells, Rows, Coloumns

What if Analysis

Printing a Worksheet

Formulas and Functions

Entering Formulas

Absolute and Relative Reference of a Cell

Mixed Referencing

Operations in Formulas

Using Text, Date and Time in a Formula

Arrays and Named Ranges

Functions

Entering Functions

Calculaions using Functions

Different types of functions in Excel

Charts, Micros and Forms

Creating a Chart

Editing a Chart

Inserting and Deleting in a Chart

Save and Print a Chart

Macros

Creating and Running Simple Macros

Creating and Running Menu Macros

COMPUTER NETWORKS

Network Bases : Models of Network computing - Centralised computing, Distributed computing and collaborative computing.

Network Models - client server, peer to peer, LAN, MAN, WAN.

Connection types and Physical topologies - Ring, Bus, Star, Mesh and Hybrid.

COMPUTER FUNDAMENTALS

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. COMPUTER OPERATIONS, MS-DOS, MS-WINDOWS 2000/XP

1. Study and Observation of connection of UPS/CVT to mains and computer.
2. Study and practice of various peripherals devices attached to the computer.
3. Starting and shutdown of computer.
4. Opening (or invoking) the application.
5. Closing the application.
6. Operating the various applications at primary level.
7. Methodically operating and mastering the any of the application like Notepad, Wordpad.
8. Installation of DOS.
9. Fine-Tuning MS-DOS.
10. Use of Internal and External Commands of DOS file operation.
11. Creation and usage of batch file - AUTOEXEC.BAT
12. Creation and usage of sys files - CONFIG.SYS
13. Standard file and directory command.
14. Designing and practicing the algorithms and flowcharts of various problems.
15. Installation of Windows.
16. Managing Files and Folders.
17. Create a picture using the Windows Paint application and save in the folder.
18. Study of different menus and submenus in Windows.
19. Working on MS Access, MS Excel, Power Point, MS-Word.

II. MS-WORD AND MULTILINGUAL LEAP OFFICE

1. Creating a document with New.
2. Opening an existing document with Open from the specified path.
3. Saving the document using Save, Save as, Save as Web Page-option.
4. Using Page Set-up, Web Preview, Print Preview and Print option.
5. Editing a document : Using Cut, Copy, Paste, Making Block, Find and Replace etc.
6. Viewing a document : Viewing as per the requirement, Setting Toolbars.
7. Formatting a document using various option in Format.
8. Using Tools in MS-WORD.

9. Working on Table in MS-WORD : Creating a table, inserting, deleting rows or columns.
10. Create Windows, edit and print a document file, using MS-WORD.
11. Genrate two page document in the regional language using Leap Office.

III. MS EXCEL

Generate and print a graph using Ms-Excel.

IV. Internet and Networking : Demo

Paper-II	**MATHEMATICS AND STATISTICS**	
Time: 2 hrs	**Theory**	**Theory: 80 Marks**
	Syllabus	**CCE : 10 Marks**
		Total: 90 Marks

Mathematics : Quadratic equation, Trigonometry, Boolean Algebra, Number System, Binary Number System, Octal, Hexodecimal Number System.

Statistics : Mean, Mode, Median, Correlation, Regression, Standard Deviation.

Mathematics : Mathematics : Trignometry

Statistics : Mean, Mode, Median, Correlation, Regression, Standard Deviation.

Paper-III **PROGRAMMING IN C**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. PROGRAMMING TECHNIQUES

Identification of problem

Problem solving techniques

Algorithms

Flowcharts

Pseudo code

2. FUNDAMENTAL OF C PROGRAMMING

History of C

Structure of a C Program

Data types : int, float, char, double, void

Constant and Variables

Variable Declaration

Integer, real, float, character, logical variable, string variable

Constants

3. OPERATORS AND EXPRESSIONS

Arithmetic operators

Relational operators

Logical operators

Expressions

Bit operation ? operator, & operator, *operator

Type casting, type conversion

4. DECISION MAKING AND LOOPING

if-then

if-then - else ladder

Nested if-else

for loop

while

5. ARRAYS AND FUNCTIONS

Arrays declaration

One and two dimensional arrays

Functions - Fundamentals

General Form

Function arguments

Return value

6. BASIC I/O

Formatted Input/Output

Unformatted Input/Output

Program design examples.

Summation of a set of numbers

Generation of fabonacci sequence

Generation of positive prime numbers

Finding key smallest element

Sorting by insertion

7. STRUCTURED PROGRAMMING

Control structures

Do While

Switch statements

Break and continue

Exit ( ) function

Go to and label

8. ADVANCED FEATURES IN FUNCTIONS

Type modifiers and storage class specifies for a data types

Scope Rules

Local and Global variables

Scope rules for functions

Parameter passing : Call-by-Value and Call-by-Reference

Calling functions with Arrays

argc and argv

Recursion

Basic Concept

Design examples

*Tower of Hanoi

**Recursive Quick sort

9. DYNAMIC DATA STRUCTURE IN C

Pointers

the & and *operators

Pointer expression

Pointer Assignments

Pointer arithmetic

Pointer comparision

The dynamic allocation functions-malloc and calloc

Pointer vs Arrays

Arrays of Pointers

Pointers to pointers

Instialising pointers

Pointer to functions

Functions returning Pointers

Function with variable number of Arguments

Structure

Basic of Structures

Declaring a Structures

Referencing Structure elements

Array of Structures

Passing Structures of functions

Passing entire Structure to Function

Structure Pointers.

Declaring a Structure pointer

Using Structure Pointers

Arrays and Structures within Structures Uses.

Unions

Declaration

Uses

Enumerated Data Types

Linked list insertion, deletion and search

10. FILE HANDLING IN C

The file pointer

File assessing functions

fopen, fclose, putsc, getc, fprintf

C pre-processor

decline

include

undef

conditional compilation directives # if, # else, #elif, #endif, # ifdef and # ifndef C Standard Library and Header Files

Header files, stdio.h, ctype.h, string.h, stdlib.h, time.h etc.

Standard library functions

String functions

Mathematical functions

Variable argument list functions

Utility functions

Character class test functions.

Paper-III **PROGRAMMING IN C**
Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Programs using problem mainly computational to illustrate expression and operator precedence.
2. Problem relating to sequence, selection and iteration.
3. Problem relating to arrays.
4. Problem which involve manipulation of two dimensional arrays such as addition, subtraction, multiplication and transpose.
5. Problems which made use of and manipulate arguments to main (as per M.S.S.).
6. Problem involving manipulation of arrays of structures.
7. Problems involving the manipulations.
8. Problems for dynamic, storage allocation such as link list, stack.

(VIII) MANUFACTURING OF SPORTS GOODS

Paper-I **WOOD BASED SPORTS GOODS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Introduction and importance of wood based sports goods industry. Scope of sports goods (wood) industries in India.
2. Raw material, auxiliaries, their availability and uses in sports goods. Types of woods used in sports Industry and reasons of its utilization.
3. Tools and Equipments :

   Various types tools, tool kit, working bench and its sketch, Tool Kit necessity, Uses of tools and equipments used for making different items. Maintenance of tools and equipments.
4. Safety precautions to be observed while working in the workshop.
5. Drawing, Designing and standard specifications of the following :
   (1) Steel Badminton racket.
   (2) Table Tennis Bat.
6. Seasoning, its advantages and various methods of seasoning of wood. Various defects of wood. Seasoning method generally used in India and Reasons for its use.
7. Various wood joints used in the manufacture of various sports goods.
8. Various types of adhesives & their usages.
9. Drawing, Designing and standard specifications of the following :
   (1) Hockey Stick.
   (2) Chess Board.
   (3) Golf stick.

WOOD BASED SPROTS GOODS

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and usages of tools.
2. Sharpening of tools.
3. Practice in making joints
4. Making the following sports items :
   (1) Steel Badminton racket.
   (2) Table Tennis Bat.
5. application of adhesives.
6. Making the following sports items :
   (3) Hockey Stick.
   (4) Chess Board.
   (5) Gutting of badminton racket

Paper-II **LEATHER AND SYNTHETIC BASED SPORTS GOODS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Introduction and importance of leather & synthetic based sports goods industry. Scope of sports goods (leather) industry in India.
2. Raw material, auxilaries, their availability and uses in sports goods. Major leathers of different animals used in this industry.
3. Reasons of use of synthetic sheets in these days in this industry specially for all types of balls like Foot-Ball, Volley Ball, Basket Ball and other balls comes in this categories.
4. Various types of machinery and equipments used and their maintenance.
5. Proper selection of leather components from finished leather.
6. Hide and sketch of Hide, labeling its sketch, best quality hide and its growth, reason of best part of Hide.
7. Drawing, Designing and standard specifications of the following.
   (1) Volleyball 32 panels.
   (2) Cricket Ball 4/2 panels.
   (3) Football

LEATHER AND SYNTHETIC BASED SPORTS GOODS

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and usages of tools and dies.
2. Use of machinery of panel cutting.
3. Practice in joining of panels.
4. Making the following sports items.
   (1) Foot ball
   (2) Volley ball
   (3) Cricket ball (Semi-Finesh)

Paper-III **TEXTILE BASED SPORTS GOODS**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Introduction and importance of textile based sports goods industry. Scope of textile based sports goods industry in India.
2. Raw material, auxiliaries, their availability and uses in sports goods. Kind of leather used in this industry.
3. Varius types of machinery and equipments used and their maintenance.
4. Pattern, its importance, Detail Study of Raw materials used for making patterns.
5. Drawing and designing of pattern cutting pertaining to all types of sports gloves, viz. batting gloves, wicket-keeping gloves, football goolkeeper gloves, hockey goolkeeper gloves, industrial gloves, boxing gloves, gool gloves.

Paper-III **TEXTILE BASED SPORTS GOODS**

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and usages of tools.
2. Cutting of components.
3. Practice in pattern cutting.
4. Making the following items.
   (1) Batting gloves.
   (2) Wicket-keeping gloves.
   (3) Football goal-keeper gloves.
   (4) Hockey goal-keeper gloves.
   (5) Industrial gloves

(IX) MANUFACTURING OF LEATHER GOODS

Paper-I **PATTERN CUTTING AND DESIGNING**

Time: 2 hrs **Theory** **Theory: 30 Marks**

Syllabus **CCE : 10 Marks**

Practical : 50 Marks

Total: 90 Marks

1. Introduction and importance of tools required in pattern cutting and designing.
2. Safety precautions to be observed while working in workshop.
3. Basic principles of pattern cutting.
4. Material used in pattern cutting.
5. Drawing and designing of pattern cutting viz. Wallets/Purses, Dak Pad, File Cover, etc.
6. Various types of machinery and equipments used and their care and maintenance.
7. Pattern cutting and designing of children Soft Toys.

PATTERN CUTTING AND DESIGNING

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and usage of tools.
2. Sharpening and preparation of tools.
3. Care and maintenance of tools.
4. Practice of pattern cutting viz. Wallets/Purses, Dak Pad, File Cover etc.
5. Practice on hand sketches of different patterns viz. Wallets/Purses, Dak Pad, File Cover etc.

Paper-II **NOVELTY LEATHER ITEMS**

Time: 2 hrs **Theory Syllabus**

Theory: 30 Marks
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Introduction and scope of the leather goods industry and its status in India with special reference to Punjab.
2. Machinery and tools used in leather goods industry.
3. Raw material, auxiliaries, their availability, proper utilization and uses in leather goods industry.
4. Types of threads and adhesives used in leather goods.
5. Introduction of various kinds of leather and its processing and general defects, measurement. Machines and tools required for measurement of hides and skins.
6. Sequence of operations while making: Wallet/purses, Dak Pad, Waist belts, Goggles cases, Refrigerator handle cover and File Cover etc.
7. Cost Calculation of the above, finished goods.

NOVELTY LEATHER ITEMS

Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and working of machinery and tools.
2. Identification of various types of raw materials.
3. Sample collection of various types of leather, raxine and their linings.
4. Various types of skiving and folding.
5. Preparation and practice of wallet.
6. Preparation and practice of waist belt.
7. Preparation and practice of File Cover.

Paper-III **TRAVELLING LEATHER GOODS**

Time: 2 hrs **Theory Syllabus**

Theory: 30 Marks
CCE : 10 Marks
Practical : 50 Marks
Total: 90 Marks

1. Introduction and importance of travelling leather goods.
2. Various types of raw material required for the manufacturing of traveling leather goods.

3. Sequence of operations while making the following : conductors cash bag, school bag, air bag, part folio, TV Cover, lady purse, office bag and Shoping Bag etc.

4. Cost calculation of the above finished goods.

Paper-III **TRAVELLING LEATHER GOODS**
Time : 3 hrs. **PRACTICAL** **Marks : 50**

1. Identification and selection of raw material used in traveling leather goods.
2. Practice of various types of sewing machines and stitching.
3. Pattern cutting of conductor cash bag, lady purse, air bag, portfolio, school bag, TV cover, Office bag, shoping bag.
4. Preparation and practice of Conductor cash bag, lady purse, air bag, portfolio, TV Cover, Office bag, shoping bag and their cost calculation.

(V) HUMANITIES & OTHERS GROUP

COMMERCIAL ART

Paper-I **COMMERCIAL ART AND DRAWING**

Time: 5hrs **Practical Syllabus** **Practical: 80 Marks**
CCE : 10 Marks
Total: 90 Marks

Time : 5 hrs. **PRACTICAL** **Marks : 80**

Structure of Question Paper

The question paper will consists of 3 parts.

No. 1 **30marks**

This part will be based upon Unit I of the syllabus. Two questions will be asked and the student will do any one out of these. The distribution of marks will be as follows :

Composition	10 marks
Expression	10 marks
Finishing	10 marks

No. 2 **30 marks**

This will be based upon Unit II of the syllabus. Any two questions will be asked and the student will attempt any one. The distribution of marks will be as follows :

Composition	10 marks
Expression	5 marks
Finishing	5 marks

No. 3 **20 marks**

This part relates to sessional work. Students will show atleast 20 articles relating to Drawing and layoutwhich have been designed by him during the whole academic year.

SYLLABUS

Marks: 80

Topics :

1. Drawing from file : Head Study :

OR

Drawing from Still file. Monochrome/Colours.

2. Drawing from nature: Flowers, Trees, Landscape painting, Birds, Animals etc.

OR

Study of techniques of Illustrations: Pen, Ink / Wash

Sessional Work

At least Six articles should be prepared by the Candidates.

The Practical Examiner will award the marks.

Paper-II **DESIGN AND LAYOUT**
Time: 5hrs **Practical** **Practical: 80 Marks**
Syllabus **CCE : 10 Marks**
Total: 90 Marks

Time : 5 hrs. **PRACTICAL** **Marks : 80**

Structure of Question Paper

The question paper will consists of 3 parts.

No. 1
30 marks

This part will be based upon Unit I of the syllabus. Two questions will be asked and the student will do any one out of these. The distribution of marks will be as follows :

Composition	10 marks
Expression	10 marks
Finishing	10 marks

No. 2
30 marks

This will be based upon Unit II of the syllabus. Any two questions will be asked and the student will attempt any one. The distribution of marks will be as follows :

Composition	10 marks
Expression	10 marks
Finishing	10 marks

No. 3
20 marks

This part relates to sessional work. Students will show at least 20 articles relating to Drawing and layout which have been designed by him during the whole academic year.

SYLLABUS

Topics :

1. Lettering and Typography

   Calligraphy

   Copying from old manuscripts

   Study of various scripts, Gurmukhi, English, devanagri and Roman etc.

   Preparation of Simple layout, Design and Lettering

   Or

   Book and Magzine cover

   Design and their colour schemes

2. Preparation of Poster based on combination of Lettering and simple illustration.
3. Sessional Work

At least six articles should be prepared by the candidates.

The practical examiner will award the marks.

Paper-III **TECHNICAL THEORY OF COMMERCIAL ART**

Time: 2 hrs **Theory** **Theory: 80 Marks**

Syllabus **CCE : 10 Marks**

Total: 90 Marks

1. Introduction and importance of Commercial Art in Life.
2. Important Art Terminologies used in Basic Design, Point, Line, Curve, Form, Tone and Texture, Monochrome, Basic Colours, Secondary Colours, Warm, Cool, Hormonious and Contrast Colours.
3. Principles of good composition.

   Distribution of Space, Balance, Rhythm, Barmnance, Abstraction and Stylizotion and Proportion.
4. Use of Perspective in illustration i.e.

   In land scape Painting, Anatomy and still life.
5. Various types of painting Techniques

   Transparent water colours Goache.

   Opaque water colours Goache.
6. Batik Technique, Mural Technique.

   Fresco, Gil Painting Technique.
7. Various types of material and equipment used in illustrations.
8. Stencilling and spray work.
9. Print Making : Lino cut, Relief Printing.

   Block Making, Silk Screen Printing from line and half tone blocks letter and offset printing.
10. Principles of Poster design.

    Layout and composition and book illustrations.
11. Sketching and its importance in Commercial art.
12. Qualities of good commercial artist.