

**PUNJAB SCHOOL EDUCATION BOARD**

**STRUCTURE OF QUESTION PAPER/  
DIVISION OF MARKS AND SYLLABI  
OF VOCATIONAL STREAM  
FOR ACADEMIC YEAR 2019-20  
CLASS - XI**

**A. SCHEME OF STUDIES**  
**11<sup>th</sup> CLASS EXAMINATION**  
**(SENIOR SECONDARY CERTIFICATE EXAMINATION-I)**  
**(VOCATIONAL STREAM)**  
**ACADEMIC YEAR 2019-20 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	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**

1. 90% and above
2. 75% & above but less than 90%
3. 60% & above but less than 75%
4. 45% & above but less than 60%
5. 33% & above but less than 45%
6. Less than 33%

**Grading**

- ‘A+’  
‘A’  
‘B’  
‘C’  
‘D’  
‘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	6	8
Elective Subject - II	2	6	8
Elective Subject - III	2	6	8

- Note :**
1. Six period are for Library Studies/Extra Curricular Activities/Optional/Tutorials/ Assignments.
  2. Three months are for On-the-job training (O.J.T) every year based on the instructions sent by the Board from time to time .
  3. Punjab School Education Board Regulations for Senior Secondary Examination are also applicable to vocational stream with certain exceptions.
  4. 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**

### **Entrepreneurship Carrier Orientation**

Meaning, Entrepreneur, Dynamics of Entrepreneurship, Entrepreneurship as an Alternate Career, Entrepreneurship vs Wage Employment, Importance of Entrepreneurship, Entrepreneurship Charms and Challenges, Myths of Entrepreneurship, Characteristics of an Entrepreneur, Need of Motivation, Motivational Pattern of Entrepreneur.

### **Project Selection**

Concept, Factors Affecting Product Selection, Market, Marketing, Need of Marketing in Business.

### **Enterprises**

Micro, Small and Medium (MSME), Classification of Micro, Small and Medium Enterprises, Features and Characteristics of Micro Enterprises, Objectives of Micro and Small Enterprises, Problems of Micro and Small Enterprises, Role of District Industrial Centres, Various Fiscal Incentives for Startup Units by Department of Industry and Commerce, Punjab Govt.

### **Skill Councils**

Introduction to Sector Skill Councils approved by NSDC Board, Skill Loan Scheme.

### **Office Correspondence**

Meaning, Definitions, Modes of Correspondence - by Hand, by Post - Ordinary Post, Book - Post, Under Posting Certificate, Registered and Unregistered Letter, Parcel, Registered Acknowledgement Due, Speed Post.

### **Introduction of Book-Keeping and Accountancy**

Meaning, Objectives, Importance of Book Keeping, Difference between Book Keeping and Accountancy, Basic Accounting Terminologies - Business Transaction, Cash and Credit, Barter Transactions, Capital, Drawing, Assets, Liabilities, Income, Expenditure, Profit, Loss, Debtor, Creditor, Solvent, Insolvent, Goods, Purchases, Sales, Stock-Opening and Closing, Bad-Debts, Discount, Commission, Goodwill, Types of Assets, Types of Liabilities, Capital Expenditure, Revenue Expenditure, Capital Receipt, Revenue Receipt, Deferred Revenue Expenditure, Entry, Narration, Account.

## **Book-Keeping Systems**

Single Entry & Double Entry, Principles of Double Entry Book Keeping System, Meaning, Importance and Advantages of Double Entry Book-Keeping System, Classification of Accounts - Personal, Impersonal - Personal, Real, Nominal, Rules of Debit & Credit for each Types of Account.

## **Forms of Business Ownership**

Sole Proprietorship, Partnership, Company, Co-operative, Selection of an Appropriate Form of Business Ownership.

## **Banking**

Meaning of Bank and Functions, Types of Bank Accounts - Saving, Current, Recurring Deposit and Fixed Deposit, Different Forms used in the Bank - Deposit, Withdrawal, Demand Draft.

## **Insurance**

Meaning, Types of Insurance - Life and General Insurance, Importance of Insurance.

## **Role of Computers**

Role of Computers in Business Management, Engineering and Technology, Agricultural Science and Home Science.

## **Income Tax**

Meaning, Types of Taxes in India, Online Procedure to Apply PAN Number, Terms used in Tax Laws - Assesse, Previous Year, Financial Year, TAN Number, TDS, Advance Tax, Self-Assessment Tax, Form No 16, Form 16A, Income Tax Return, Form 26 As.

**(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 (1 out 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 ਨਾਲ 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
<b>ਕੁੱਲ ਅੰਕ</b>		<b>65</b>

**ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ**

**ਪਰੀਖਿਆ ਪੱਖੋਂ ਅਧਿਆਪਕਾਂ, ਵਿਦਿਆਰਥੀਆਂ, ਪੇਪਰ ਸੈਂਟਰਾਂ ਅਤੇ ਪਰੀਖਿਅਕਾਂ ਲਈ ਵਿਸ਼ੇਸ਼ ਹਿਦਾਇਤਾਂ**

ਪ੍ਰਸ਼ਨ ਨੰ: 1 ਸਮੁੱਚੇ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਅਧਾਰ ਤੇ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 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/ਗਲਤ, ਖਾਲੀ ਥਾਂਵਾਂ ਜਾਂ ਇੱਕ ਦੋ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਵਾਲੇ 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 ਵਿੱਚੋਂ 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 ਨਾਲ 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। **6×1/2=3 ਅੰਕ**

(ਅ) ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੇ ਗਏ ਬੈਂਕ, ਰੇਲਵੇ, ਡਾਕ ਅਤੇ ਬੀਮਾ-ਸੇਵਾਵਾਂ ਅਤੇ ਕੰਪਿਊਟਰ ਨਾਲ 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 ਅਖਬਾਰ 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- XXII	03	03	02	5 Places ×2 =10 marks Explanation 5×1=5 marks	08
No.of Questions	07	06	05	1	19
<b>Total Marks</b>	<b>07</b>	<b>18</b>	<b>25</b>	<b>15</b>	<b>65</b>

**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**

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

#### **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 Environment 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 campaigns, 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 pollution- sources and consequences.
- 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 mitigation.

## **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 firewood, 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( biomass, 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 sources- efficiency in production, transportation and utilization of energy.
- Future sources of energy- hydrogen, alcohol, fuel cells.

## **Unit V Safe work Environment and Occupational Hazards**

### **15. Safe Work Environment**

- Safe work environment- 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 material.
- 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 compulsory topic, Matter is available on the Board's website [www.pseb.ac.in](http://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 trees, 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

ਪ੍ਰੋਗਰਾਮਿੰਗ : 40 ਅੰਕ

ਕੁੱਲ : 100 ਅੰਕ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਚਾਰ ਭਾਗਾਂ (ਭਾਗ ਓ, ਭਾਗ ਅ, ਭਾਗ ਏ ਅਤੇ ਭਾਗ ਸ) ਵਿੱਚ ਵੰਡਿਆ ਹੋਵੇਗਾ।
2. ਭਾਗ ਓ 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 ਹੋਣਗੇ।
6. ਭਾਗ ਓ, 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।

ਨੰ	ਲੜੀ	ਅਧਿਆਇ ਦਾ ਨਾਂ	ਕੁੱਲ ਅੰਕ	1 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	2 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	4 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	6 ਅੰਕ 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 ਐਕਸਪ੍ਰੈਸ਼ਨ	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. ਦਸਵੀਂ ਕਲਾਸ ਦੀ ਦੁਹਰਾਈ**

ਸਾਫਟਵੇਅਰ ਸੰਕਲਪ

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

**2. "ਸੀ" ਭਾਸ਼ਾ ਵਿੱਚ ਪ੍ਰੋਗਰਾਮਿੰਗ ਲਈ ਭੂਮਿਕਾ**

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 ਡਿਕਲੇਰੇਸ਼ਨ

ਸੀ (C) ਪ੍ਰੋਗਰਾਮ ਦਾ ਕੰਪਾਈਲ ਅਤੇ ਲਾਗੂ ਕਰਨ

ਐਡੀਟਰ ਦੀ ਵਰਤੋਂ

ਫੰਕਸ਼ਨ: ਬਿਲਟ ਇਨ ਫੰਕਸ਼ਨਸ, ਯੂਜ਼ਰ ਪਰਭਾਸ਼ਤ ਫੰਕਸ਼ਨਸ ਫਾਰਮੇਟਡ ਆਈ/ਓ ਫੰਕਸ਼ਨ : ਪ੍ਰਿੰਟਐਫ ਫੰਕਸ਼ਨ (printf function), ਸਕੈਨਐਫ ਫੰਕਸ਼ਨ (scanf function) ਸੀ (C) ਪ੍ਰੋਗਰਾਮਿੰਗ ਨਾਲ ਸ਼ੁਰੂਆਤ ਕਰਨੀ : ਟਰਬੋ ਸੀ ਨੂੰ ਸਥਾਪਿਤ ਕਰਨਾ, ਪ੍ਰੋਗਰਾਮ ਦੀ ਕੰਪਾਇਲਿੰਗ ਅਤੇ ਐਗਜ਼ੀਕਿਊਟਿੰਗ

### 3. ਕਾਂਸਟੈਂਟਸ, ਵੈਰੀਏਬਲਜ਼ ਅਤੇ ਡਾਟਾ ਟਾਈਪਸ

ਭੂਮਿਕਾ

ਕਾਂਸਟੈਂਟਸ/ਸ਼ਾਬਦਿਕ :

ਸੀ (C) ਕਾਂਸਟੈਂਟ ਦੀਆਂ ਟਾਈਪਸ

ਸੀ (C) ਵੈਰੀਏਬਲਜ਼/ਆਈਡੈਂਟੀਫਾਈਰ ਦੀਆਂ ਟਾਈਪਸ : ਡਿਲੀਮੀਟਰ, ਵੈਰੀਏਬਲਜ਼ ਦਾ ਡਿਕਲੇਰੇਸ਼ਨ ਇਨਿਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ

ਵੈਰੀਏਬਲ ਵਿਚ ਕਾਂਸਟੈਂਟ ਸਟੋਰ ਕਰਨਾ

ਡਾਟਾ ਟਾਈਪਸ: : ਬਿਲਟ ਇਨ ਡਾਟਾ ਟਾਈਪਸ (ਇੰਟੀਜ਼ਰ, ਫਲੋਟਿੰਗ ਪੁਆਇੰਟ - ਡਾਟਾ ਟਾਈਪ , ਕਰੈਕਟਰ ਡਾਟਾ ਟਾਈਪ, ਡਬਲ, ਵੋਆਇਡ ਡਾਟਾ ਟਾਈਪ),, ਮੇਨ ਫੰਕਸ਼ਨ ਹੈਡਰ ਟੋਕਨਜ਼(ਆਈਡੈਂਟੀਫਾਇਰਜ਼), ਕੀ-ਵਰਡਜ਼, ਕਾਂਸਟੈਂਟ, ਓਪਰੇਟਰਸ) : ਕੀ ਵਰਡਜ਼ ਅਤੇ ਆਈਡੈਂਟੀਫਾਇਰਜ਼, ਟਾਈਪ ਮੋਡੀਫਾਇਰ ਜਾਂ ਕੁਆਲੀਫਾਈਰ

### 4. ਓਪਰੇਟਰਸ ਅਤੇ ਐਕਸਪ੍ਰੈਸ਼ਨ

ਭੂਮਿਕਾ

ਓਪਰੇਟਰਸ ਅਤੇ ਐਕਸਪ੍ਰੈਸ਼ਨ : ਐਕਸਪ੍ਰੈਸ਼ਨ, ਬਾਇਨਰੀ ਓਪਰੇਟਰ, ਐਪਰਸ਼ਨਜ਼ ਅਤੇ ਹਿਰੈਚੀਕਲ ਆਰਡਰ (Operations & Hierarchical order) ਰਿਲੇਸ਼ਨਲ ਅਤੇ ਲੌਜੀਕਲ ਓਪਰੇਟਰ: ਲੌਜੀਕਲ ਓਪਰੇਟਰ, ਅਸਾਈਨਮੈਂਟ ਓਪਰੇਟਰ,

ਇਨਕਰੀਮੈਂਟ ਅਤੇ ਡਿਕਰੀਮੈਂਟ ਓਪਰੇਟਰਸ, ਟਰਨਰੀ ਓਪਰੇਟਰ, ਕੌਮਾ ਓਪਰੇਟਰ, ਸਾਈਡਆਫ() ਓਪਰੇਟਰ, ਬਿਟਵਾਈਜ਼

ਓਪਰੇਟਰ

### 5. ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 1)

ਭੂਮਿਕਾ

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

ਸਵਿਚ ਸਟੇਟਮੈਂਟ

ਬ੍ਰੇਕ ਸਟੇਟਮੈਂਟ

ਨਿਰੰਤਰ ਸਟੇਟਮੈਂਟ

### 6. ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 2)

ਭੂਮਿਕਾ

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

ਫਾਰ ਸਟੇਟਮੈਂਟ ਲੂਪ (For Statement loop)

### 7. ਐਰੇਸ (ਭਾਗ 1)

ਭੂਮਿਕਾ

ਐਰੇ ਦੀ ਡਿਕਲੇਅਰੇਸ਼ਨ ਅਤੇ ਇਨਿਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ : ਇਨਿਸ਼ਿਯਲਾਈਜ਼ਿੰਗ 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 ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦੀ ਡਿਕਲੇਰੇਸ਼ਨ, ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦੀ ਬਣਤਰ, ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਐਲੀਮੈਂਟਸ ਦਾ ਇਨੀਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ, ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ 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 ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦਾ ਇਨੀਸ਼ਿਯਲਾਈਜ਼ੇਸ਼ਨ, ਕੈਰ ਵੱਰਡ ਪ੍ਰੋਸੈਸਿੰਗ ਦੇ ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਇਕ-ਕੈਰ ਟਾਈਪ ਇਨਪੁੱਟ/ਆਉਟਪੁੱਟ

# ਡੀਫਾਈਨ ਡਾਇਰੈਕਟਿਵ (# define directive)

9. **ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ**

ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ ਬਾਰੇ ਜਾਣਕਾਰੀ

ਡਾਕੂਮੈਂਟਸ ਨੂੰ ਪ੍ਰਿੰਟ ਕਰਨਾ

ਪ੍ਰਿੰਟਿੰਗ ਦੇ ਤਰੀਕੇ ਆਫਸੈਟ ਪ੍ਰਿੰਟਿੰਗ, ਲੇਜ਼ਰ ਪ੍ਰਿੰਟਿੰਗ

ਫੋਂਟਸ

ਫਰੇਮ

ਪੇਜ ਲੇਆਉਟ

ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ ਅਤੇ ਵਰਡਪ੍ਰੋਸੈਸਰ ਵਿਚ ਅੰਤਰ

ਡਾਕੂਮੈਂਟ ਪਲੈਨਿੰਗ

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

**ਕੰਪਿਊਟਰ ਸਾਇੰਸ ( ਗਿਆਰਵੀਂ ਸ਼੍ਰੇਣੀ)**

**ਅਗਵਾਈ ਲੀਹਾਂ (ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਆ)**

ਸਮਾਂ-3 ਘੰਟੇ

ਅੰਕ -40

**ਪ੍ਰੀਖਿਆ ਲਈ ਅੰਕ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ:**

ਸੈਕਸ਼ਨ - ਏ	ਵਾਇਵਾ- ਵੋਸ	10
ਸੈਕਸ਼ਨ - ਬੀ	ਰਿਕਾਰਡ ਫਾਇਲ	10
ਸੈਕਸ਼ਨ - ਸੀ	ਛੋਟੇ ਪ੍ਰੋਗਰਾਮ	20

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। **1x10=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 ਖੁੱਲ੍ਹ ਹੋਵੇਗੀ। ਹਰ ਪ੍ਰੋਗਰਾਮ/ਪ੍ਰਸ਼ਨ ਪੰਜ ਪੰਜ ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ, ਹਰੇਕ ਪ੍ਰੋਗਰਾਮ / ਪ੍ਰਸ਼ਨ ਲਈ ਅੰਦਰੂਨੀ ਅੰਕ ਵੰਡ ਪੇਪਰ ਸੈੱਟਰ ਕਰਕੇ ਦੇਵੇਗਾ। **4x5=20 ਅੰਕ**

**ਦੁਹਰਾਈ**

ਐਕਸਲ

ਐਚ.ਟੀ.ਐਮ.ਐਲ.

ਮਾਈਕਰੋਸੋਫਟ ਆਫੀਸ : ਡਾਟਾ ਸੋਧਨਾ, ਅਫੀਸ ਡਾਟਾਬੇਸ ਦੇ ਆਬਜੈਕਟ

1. **"ਸੀ" ਪ੍ਰੋਗਰਾਮ**

ਸਟਰਕਚਰ: ਗਲੋਬਲ ਡਿਕਲੇਰੇਸ਼ਨ, ਸੀ (C) ਪ੍ਰੋਗਰਾਮ ਦਾ ਕੰਪਾਈਲ ਅਤੇ ਲਾਗੂ ਕਰਨ ਐਡੀਟਰ ਦੀ ਵਰਤੋਂ ਫੰਕਸ਼ਨ:

ਬਿਲਟ ਇਨ ਫੰਕਸ਼ਨ, ਯੂਜ਼ਰ ਪਰਭਿਾਸ਼ਤ ਫੰਕਸ਼ਨ

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

3. **ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 1)**  
ਡਿਸਿਜਨ ਮੇਕਿੰਗ ਸਟੇਟਮੈਂਟ : ਇਫ ਸਟੇਟਮੈਂਟ (if statement), ਇਫ ਐਲਸ ਸਟੇਟਮੈਂਟ (if else)  
ਸਵਿਚ ਸਟੇਟਮੈਂਟ  
ਬ੍ਰੇਕ ਸਟੇਟਮੈਂਟ  
ਨਿਰੰਤਰ ਸਟੇਟਮੈਂਟ !
4. **ਕੰਟਰੋਲ ਫਲੋ (ਭਾਗ 2)**  
ਕੰਟਰੋਲ ਲੂਪ ਸਟਰਕਚਰ : ਵਾਈਲ ਸਟੇਟਮੈਂਟ (While statement), ਡੂ ਵਾਈਲ (do while),  
ਫਾਰ ਸਟੇਟਮੈਂਟ ਲੂਪ (For Statement loop)
5. **ਐਰੇਸ (ਭਾਗ 1)**  
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  
ਅੰਸਤਨ, ਉੱਚਤਮ ਅਤੇ ਨਿਊਨਤਮ ਅੰਕ ਲੱਭਣਾ
8. **ਐਰੇਸ (ਭਾਗ 2)**  
ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ ਦੀ ਬਣਤਰ ਅਤੇ ਇਨੀਸ਼ਿਅਲਾਈਜ਼ੇਸ਼ਨ  
ਮਲਟੀ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇਸ : ਐਲੀਮੈਂਟਸ , ਇਨੀਸ਼ਿਅਲਾਈਜ਼ੇਸ਼ਨ, ਦੋ ਡਾਈਮੈਨਸ਼ਨਲ ਐਰੇ,  
ਇਕ-ਕੋਰ ਟਾਈਪ ਇਨਪੁੱਟ/ ਆਊਟਪੁੱਟ
9. **ਡੈਸਕਟਾਪ ਪਬਲਿਸ਼ਿੰਗ**  
ਡਾਕੂਮੈਂਟਸ ਨੂੰ ਪ੍ਰਿੰਟ ਕਰਨਾ  
ਪ੍ਰਿੰਟਿੰਗ ਦੇ ਤਰੀਕੇ : ਆਫਸੈਟ ਪ੍ਰਿੰਟਿੰਗ, ਫੁਟਰ ਪ੍ਰਿੰਟਿੰਗ  
ਫੋਂਟਸ  
ਫਰੇਮ  
ਪੇਜ ਲੇਆਊਟ  
ਡਾਕੂਮੈਂਟ ਪਲੈਨਿੰਗ  
ਮੁੱਖ ਸੂਚਨਾ ਨੂੰ ਖਾਸ ਤੌਰ ਤੇ ਦਿਖਾਇਆ ਜਾਣਾ : ਸਟਾਈਲ, ਮਾਰਜਨ, ਫੁਟਰ, ਫੋਂਟ

**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 11<sup>th</sup> 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:-**

<b>GROUP</b>	<b>TRADE</b>	<b>SUBJECTS</b>
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**  
**Time : 3 hrs**

**Theory: 30 Marks**  
**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:-**

<b>GROUP</b>	<b>TRADE</b>	<b>SUBJECTS</b>
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 months 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) TRADE : HORTICULTURE**

#### **11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**FUNDAMENTALS OF HORTICULTURE**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Definition, Importance and Scope of Horticulture.
- Branches of Horticulture, Classification, Distribution of Horticulture Crops and Horticulture Zones of India.
- Selection of Site and Soil for Establishing Orchards , Establishment of Windbreaks
- Layout, Planning and Planting of Fruit Crop.
- Different systems of Planting, High Density Planting.
- Method of Irrigation in Fruit Crop with Special Reference to Drip Irrigation.
- Manuring and Fertilization in Fruit Crop, Method and Time of Application.
- Technique of Training and Pruning of Fruit Crop. Rejuvenation of Senile Orchards.
- Different Technique of Weed Management in Orchards.
- Protection of Fruit Plants During Summer and Winter Season.
- Propagation Techniques: Methods Asexual and Sexual Propagation, Selection of Rootstock and Scion.
- Nursery Raising, Preparation of Bed, Seed Sowing, Protection, Hardening, Lifting and Packing of Seedlings.
- Methods of Communication and Transfer of Technology.

## FUNDAMENTAL OF HORTICULTURE

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Survey and selection of site for orchard establishment.
- Identification and working of garden tools and farm implements.
- Collection and analysis of soil and water samples for orchards.
- Study of material and plants required for fencing.
- Visit to fruit plant nursery and understanding different components of fruit nursery.
- Study of different types of fertilizers, manures and bio fertilizers.
- Preparation of nursery beds, sowing of seeds for rootstock development.
- Practicing the lifting, packing and transplanting of plants.
- Study of different system of irrigation with special reference to drip and sprinkler in an orchard.
- Practicing training and pruning in fruit crops.
- Extraction of seeds, seed storage of various root stocks. Scarification and stratification of seeds.
- Propagation through cuttings, budding, layering and grafting in different fruit plants.

## **TRADE : HORTICULTURE**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-II**

#### **POMOLOGY**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Importance and Scope of Fruit Industry in India with Special Reference to Punjab.
- Nutritive Value of Fruits and Their Role in Human Diet.
- Classification of Fruit Crops Based on Climatic Requirements; Fruit Growing Zones in Punjab.
- Commercial Cultivation of Major Fruit Crops with Special Reference to their Origin, Soil & Climatic Requirements , Varieties, Propagation Techniques , Time of Planting, Training & Pruning ,Manuring & Fertilization, Inter-culture, Irrigation, Weed Control, Pests & Disease Management , Harvesting and Post Harvest Handling, Storage and Marketing of - Mango, Papaya, Sapota, Citrus Fruits, Guava, Grape, Litchi, Ber, Pomegranate, Amla, Pear, Peach, Jamun.

#### **POMOLOGY**

**Time : 3 hrs**

#### **PRACTICAL**

**Marks : 50**

- Visit to an orchard and understanding different features of an ideal orchard.
- Identification of different fruit crops and their major varieties.
- Identification of different pests of fruit crop.
- Identification of important diseases of fruit crops.
- Study of physiological disorders in fruit crops.
- Identification of nutritional deficiencies in fruit plants.

## **TRADE : HORTICULTURE**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-III**

#### **OLERICULTURE**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Importance of Vegetables and Their Role in Human Diet.
- Present Status and Future Scope of Vegetable Production in Punjab.
- Classification of Vegetables Based upon Climate Zone Parts used in Food, Cultural Practices.
- Types and System of Vegetable Growing Including Protected Cultivation and Cropping Sequence.
- Type of Vegetable Garden, Kitchen Garden and Market Gardens.
- Nursery Raising for Vegetables Crops.
- Commercial Cultivation of the Following in Respect to Climate, Soil, Varieties, Planting Method, Irrigation, Weed Control, Plant Protection, Post Harvest Management and Grading - Tomato, Brinjal, Chilli, Okra, Watermelon, Muskmelon, Cucumber, Gourds, Potato, Onion, Garlic, Pea, Cauliflower, Cabbage, Radish, Carrot, Spinach, Lettuce Vegetables of Local Importance.
- Seed Production in Important Vegetable Crops Like Tomato, Cauliflower, Chilli, Peas, Onion, Radish, Watermelon and Potato.
- Importance of Vegetables and Their Role in Human Diet.

#### **OLERICULTURE**

**Time : 3 hrs**

#### **PRACTICAL**

**Marks : 50**

- Visit to vegetable farms and identification of vegetable crops.
- Identification of various vegetable seeds.

- Layout and soil sterilization for vegetable nurseries.

- Use of manure and fertilizers for important vegetable crops.
- Intercultural operations like hoeing, earthing and staking in vegetables.
- Hardening of nursery seedling.
- Study of nutrient deficiency symptoms in important vegetable crops.
- Type of weeds and their control in vegetable crops.
- Identification of important diseases of important vegetable like potato, tomato, chilli, brinjal, pea and their control.
- Visit to a vegetable seed production farm and seed processing unit.
- Grading and packaging of vegetable crops.

## **II BUSINESS AND COMMERCE GROUP**

### **(i) TRADE : MODERN OFFICE PRACTICES**

#### **11<sup>th</sup> VOCATIONAL**

**PAPER-I**

#### **OFFICE MANAGEMENT - I THEORY**

**Time : 2 hrs**

<b>Theory</b>	<b>: 30 Marks</b>
<b>CCE</b>	<b>: 10 Marks</b>
<b>Practical</b>	<b>: 50 Marks</b>
<b>Total</b>	<b>: 90Marks</b>

**General Introduction to an Office**

Meaning, Importance, Functions, Departments, Role of Office Manager, Duties and Qualities.

**Office Organization**

Meaning, Principles, Centralization and Decentralization of Office Services, Organizational Charts: Contents, Types, Advantages and Disadvantages.

**Office Accommodation and Layout**

Office Accommodation, Layout, Principles, Steps in Designing Office Layout, Types of Layout, Government Office vs. Private Office.

**Office Environment**

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

**Office Management**

Meaning of Management, Functions of Management: Planning, Organizing, Staffing, Directing, Coordinating, Controlling.

### **Handling Correspondence and Mail**

Correspondence: Meaning, Importance, Handling Correspondence, Types: External and Internal, Mail: Meaning, Importance, Centralization and Decentralization of Mail Handling, Procedure of Handling Mail, Mail Room Equipment. Meaning of Noting and Note Sheet

### **Postal Information**

Services Rendered by Postal Department: Letters, Registered Letters, Insured Letters, Packets, Parcels, Business Reply Cards, Envelops etc, Recorded Delivery Service: Certificate of Posting, Value Payable Post, Book Post and Remittance, Speed Post and Courier Services, Miscellaneous Services: Post Box, Post Bag, Identification Cards, Postal Rates, Use of Post Office Guide.

### **Record Management and Filing**

Record: Importance, 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.

## **OFFICE MANAGEMENT - I**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit an office to study the lighting arrangements, ventilation, interior decoration, cleanliness, safety, security and prepare a report.
- Make an assignment on a management system of your school.
- Receiving and sorting mail department wise.
- Preparation of envelops.
- Maintaining dispatch book.
- Prepare a records of students of your class collecting DMC, Aadhar card, Bank account, Admission forms etc, Arrange them alphabetically.
- Make a report on the working of the following machines, by visiting post office.
  - Punching and staple machine.
  - Folding machine.
  - Sealing machine.
  - Addressing machine.
  - Weighing and stamping.
  - Use of post office guide.
- Preparing cards for card index with suitable guide cards.



## MODERN OFFICE PRACTICES

### 11<sup>th</sup> VOCATIONAL

PAPER-II

TYPOGRAPHY – I (ENGLISH)/ (PUNJABI)

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

#### Part-I: Typography

##### Introduction to Typography

Origin and development of typewriting, Importance and Utility of typewriting, Types of Machines – manual, portable, noiseless (Braille), Electronic, Computers and laptops.

##### Key-Board Operations

Sitting posture, Touch and sight methods, Learning home row, upper row, bottom row, Learning number row, special signs and symbols & Roman numbers.

##### Display Techniques

Margin setting and line spacing, alignments, centering of heading, Use of punctuation marks, Paragraphing, Syllabification and calculation of speed, Typing of tabular statement.

##### Shorthand

Introduction and Importance, Correct Sitting Posture, Qualities of a good Stenographer

#### Part-II: Computer Applications

##### Computer Hardware

Introduction to floppy disk & floppy, disk drive, Pen Drive, CD & DC-drive, DVD Drive, Hard Disk - HDD, Storing & retrieving data from various Storage Devices, Identification of various input & output devices, different types of printer - Dot Matrix, Inkjet/DeskJet/Bubble jet, Laser printer, Connectivity (USB, PS2, Keyboard Port, Monitor Socket, Speaker/Microphone Socket) for connecting devices such as Keyboard, Mouse, Monitor, Scanner, Printer, Speaker, Microphone, Pen Drive and Web Cam, Setting of basic properties of Monitor and Printer.

##### Windows Operating System

Introduction to Windows: Logging on, switching between accounts, Assigning and changing account passwords, shutting down minimizing windows, enlarging windows, manually changing window sizes,

moving windows, closing a window, a window's menu, a window's toolbar, taskbar & Start button functions. Working with Windows: Looking at my Computer window, working in my Computer window, navigating and using Windows Explorer and Control Panel.

## **Office**

Introducing Word, Excel, PowerPoint, Outlook, Optimizing office shortcut bar, the office assistant, sharing information.

## **Ms Word**

Beginning with Word, Entering text, selecting text deleting text, copying and cutting, pasting text, finding and replacing text with basic and advanced options, auto correcting and auto formatting, correcting mistakes, spelling and grammar corrections, Formatting with Word: Simple character formatting - changing fonts and colors of text. Inserting numbers and bullets, paragraph formatting - center align, left align, right align and justify text tab setting, setting indentation and spacing, the ruler, setting page margins, Inserting line and page breaks, Formatting with styles, using format painter, previewing document before print, Document properties.

## **Using Word's Advanced Proofreaders**

Using the spell checker, using automatic hyphenation, using the thesaurus, Simple transaction, customize features and options settings, Advanced Word Features: Inserting special characters, inserting dates and page numbers, inserting pictures, inserting scanned and digital camera images, creating and using auto text entries, adding tables to documents - creating new table, traversing the table, Inserting new columns and rows, drawing tables freehand, Using header and footer options, adding footnotes and endnotes.

## **TYPOGRAPHY – I**

### **PRACTICAL**

**Time: 3 hrs**

**Marks : 50**

- Key Board Operations
- Typing speed of 20 words per minute.
- MS Word: Creating, formatting and page setting a document keeping the following areas in mind.
- Font – size, type, style.
- Alignment – left, right, center, justify.
- Page setting – Left Margin, Right Margin, Top Margin, Bottom Margin.
- Spell check & corrections.
- Saving in the newly created folder.
- Printing the document.
- Finding and replacing words.
- Saving the changed/modified document in the folder.

- Reprinting the changed document.

Same for Punjabi as well as Hindi Medium

**PAPER-III                      BASICS OF BOOK KEEPING AND ACCOUNTANCY**

**THEORY**

**Time : 2 hrs**

**Theory        : 30 Marks**

**CCE            : 10 Marks**

**Practical     : 50 Marks**

**Total         : 90Marks**

**RECORDING TRANSACTIONS**

- Accounting: Definition, Functions and Importance, Role of an Accountant.
- Key Accounting Terms: Transaction, Voucher, Debit, Credit, Accounting Equation, Assets, Liabilities, Capital, Profit, Expenditure, Stock, Depreciation.
- Accounting Cycle, Accounting Principles, Accounting Concepts: Business Entity Concept, Money Measurement Concept, Going on Concept and Accounting Period Concept, Cost Concept, Matching Concept and Conventions: Full Disclosure, Consistency, Materiality, Objectivity and Conservatism
- Account: Meaning, Types: Personal, Real, Nominal.

**Accounting Procedure**

- Day Book and Its Utility, Types of Transactions Recorded in a Day Book.
- Accounting and Supporting Vouchers, Posting of Vouchers in a Day Book, Rules of Journalizing, Advantages and Limitations of Journal, Recording Transactions in Journal/Day Book.
- Ledger: Meaning, Need and Format, Difference Between Journal and Ledger. Posting of Transaction from Day Book to Ledger.
- Balancing of Day Book and Accounts: Meaning of Debit and Credit Balances.
- Trial Balance: Concept, Need and Methods.

**Bank Transactions and Negotiable Instruments**

- Bank: Services Offered by Bank to a Business Firm, Types of Bank Accounts: Current, Savings and Fixed Deposit Accounts, Pass Book.
- Cheque: Nature and Type, Crossing and Endorsement, Dishonour of a Cheque.

## ELEMENTS OF ACCOUNTING

**Time: 3 hrs**

### PRACTICAL

**Marks : 50**

- Preparation of basic vouchers such as cash memos, receipts, bills, invoices, debit notes and credit notes.
- Preparation of a day book.
- Use of ledger, posting of transactions recorded in vouchers to ledgers.
- Preparation of a trial balance.
- 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.

# OR

## TRADE : MODERN OFFICE PRACTICES

11th VOCATIONAL

SHORTHAND – I (ENGLISH)/ (PUNJABI)

THEORY

PAPER-III

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

### History of Shorthand

Evolution, Development, Scope and Importance of Shorthand.

### Shorthand Materials

Uses of Pen, Pencil and Copy, Care of Pen, Pencil and Copy, Importance and Need of Shorthand Notebook.

### Consonant

Definition of Strokes, Difference between Stroke ' Ch ' & ' R ', Joining of Strokes.

### Vowels

Definition, Vowel Sounds, Places and Value of Vowel Signs.

### Alternative Strokes

Alternative Signs of the Consonant R & H, Value of H Tick and H Dot.

### Use of Diphthongs

Definition, Difference between Vowels and Diphthongs, Tri phones and their Signs, Joining of Diphthongs with Strokes.

### Abbreviated W (Semi Circle)

Uses of W (Semi Circle)

### Gramalogues

Gramalogues or Short Form, Logogram, Contraction/Short Outline.

### Phraseography

Meaning of Phraseography, Phrasogram and its Examples.

### Dictation

Method of Taking Dictation and Sitting Posture during Dictation, General Mistakes and their Rectification.

### Functions of a Steno

## SHORTHAND – I (ENGLISH)/ (PUNJABI)

Time: 3 hrs

PRACTICAL Marks : 50

- Practicing sitting posture including the position of notebook and holding of pen/pencil.
- Practice of Consonants, writing each consonant with particular attention to their formation, length, angle, size, direction, thickness, etc. joining of strokes.
- Practice of using vowels and exercise from the text book.
- Practice of using Grammalogues, Punctuation marks, phrases diphthongs, triphones.
- Students should attain speed of 60 W.P.M in shorthand. They will be dictated a Para of 150 words, they are to transcribe it within 15 minutes on type writer/Computer.
- Sessional work- A file of at least 100 pages will be prepared by the students during the session.

Same for Punjabi as well as Hindi Medium



# ELEMENTS OF BANKING AND BOOK KEEPING

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit to a bank branch and observing functions of various departments in a bank.
- **Make slides showing the types of Accounts.**
- Make an assignment on accounting equations.
- Practice 10 Journal entries, post them into ledger and prepare trial balance.
- Prepare a format of final accounts.

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.

## TRADE : BANKING AND FINANCIAL SERVICES

11<sup>th</sup> VOCATIONAL

**PAPER-II**

**DEPOSIT ACCOUNTS AND FINANCIAL SERVICES**

**THEORY**

**Time : 2 hrs**

<b>Theory</b>	<b>: 30 Marks</b>
<b>CCE</b>	<b>: 10 Marks</b>
<b>Practical</b>	<b>: 50 Marks</b>
<b>Total</b>	<b>: 90 Marks</b>

Types of bank accounts: savings accounts, current accounts, fixed deposit accounts, recurring deposit accounts: Meaning, features, opening, closing and operation a bank accounts, application of bank accounts for different customers i.e individual/ single account, joint account, minors account, account for illiterates, sole preparatory, partnership firms, private and public limited companies, societies, trust accounts, club accounts etc. accounts for non- trading concerns, closing of an account, settlement of balance in deceased's account, In fixed deposit account , 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.

Public provident fund: meaning and features.

Define concepts: Interest rate, Bank rate, Repo rate, Reverse repo rate, CRR, SLR, ICRR, Monetary policy.

### **Financial Management**

Meaning, Objectives, Functions, Advantages and Disadvantages. Financial

Planning

Importance, Features, Objectives, Capital Structure - Fixed and Working. Capital

Market



Meaning, Elements, Nature, Function, Types of Capital Market, Shares, Debentures and Bonds -  
Meaning and Difference.

Money Market

Constituents, Functions, Security Exchange Board of India (SEBI), Objectives of SEBI, Functions of SEBI.

Stock Exchange

Meaning, Functions, Listing of Securities, Procedure of Dealing at Stock Exchange, Operators (Brokers, Bulls and Bears) in Stock Exchange, National Stock Exchange, Over the Counter Exchange of India.

## **DEPOSIT ACCOUNTS AND FINANCIAL SERVICES**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

Bank Accounts: Account opening forms, how to fill in, specimen signature cards, preparation of pay-in-slips, issuing of cheque books, entries in cheque book issue register, withdrawal forms, minors declaration forms, payment of cheque/withdrawals, stop payment instructions, posting of clearing vouchers/ cheque, calculation of half yearly products and interest, entries in pass books, transferring an account from one branch to another and settlement of claims in deceased's account, account holders particularly partnerships firms and companies, recording of mandate letters and power of attorney in respective registers. Filling up of account opening forms for various types of TD accounts, (fixed/short deposit account). Exercises on rates of interest, calculation of due dates. issue of pass books, loss of pass books, duplicate pass books, recovery of charges/interests on late installment payments.

**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.

Make a report on working of top five companies and their performance.

Make a report of any Financial Institution and write the functions performed by its Manager.

Visit any financial institution/ banks and enlist financial services provided by them.

## **TRADE : BANKING AND FINANCIAL SERVICES**

**11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**HOUSE KEEPING IN BANKS**

**THEORY**

**Time : 2 hrs**

<b>Theory</b>	<b>: 30 Marks</b>
<b>CCE</b>	<b>: 10 Marks</b>
<b>Practical</b>	<b>: 50 Marks</b>
<b>Total</b>	<b>: 90Marks</b>

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, meaning of 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.

## **HOUSE KEEPING IN BANKS**

**Time: 3 hrs**

**PRACTICAL**

**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.

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.

## **TRADE : MARKETTING**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-I**

#### **BASIC MANAGEMENT**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### ▪ **Management**

Meaning, Features, Objectives, Functions of Management, Role of a Manager in an Organization, Five Steps to Grow Your Business with Marketing Strategies, Marketing Manager: Duties and Job Description of Marketing Manager.

#### ▪ **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 Payment.

#### ▪ **Directing**

Meaning, Supervision and Communication.

#### ▪ **Controlling**

Meaning, Features, Importance and Limitation.

#### **BASIC MANAGEMENT**

**Time: 3 hrs**

#### **PRACTICAL**

**Marks : 50**

- Preparation of organizational structure of a firm/company/business house located in your vicinity.
- Make a project report on methods of recruitment, staffing pattern and method of wage payment.
- Make an assignment on training procedure.

- Enlist all the principles of management in your file.
- Make a report on planning procedure followed in your school.
- Group discussion on developing overall plans of your school, record the views and make a plan.

# TRADE : MARKETTING

## 11<sup>th</sup> VOCATIONAL

PAPER-II

MARKETING MANAGEMENT - I

### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

- **Marketing**

Meaning, Objectives, Importance and Advantages of Marketing.

- **Marketing Management**

Meaning, Objectives, Importance and Advantages of Marketing Management.

- **Marketing Segmentation**

Meaning, Importance, Advantages and Disadvantages.

- **Marketing Mix**

Meaning and Elements of Marketing Mix.

- **Product Planning**

Meaning, Objectives, Product Life Cycle, Product Planning Steps and Importance of Product Planning.

- **Pricing**

Meaning of Price, Importance, Pricing Policies and Strategies, Meaning and Objectives of Price Determination, Four Different Pricing Methods (i.e. Cost Based Pricing, Demand Based Pricing, Competition Based Pricing and Geographical Pricing).

- **Channel of Distribution**

Meaning, Classification of Channels and Marketing Channel Strategies.

### MARKETING MANAGEMENT - I

Time: 3 hrs

PRACTICAL

Marks : 50

- Project enlisting of products of daily use by consumers/traders in local market of your locality.
- Study the product life cycle of any two products.
- Mock drill for selling any two consumer product in school.
- Study the distribution channels of any two products.
- Pricing policy of two- wheelers.
- Taking any two brands of your choice, collect the following market information.
  - (a) Segments for which they are made.
  - (b) Competitors brands.
  - (c) Marketing mix information: information about its price, ways of promotion, ways of distribution.

**(iii) TRADE : MARKETING**

**11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**SALESMANSHIP - I**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

▪ **Salesman Ship**

Meaning, Features, Importance, Personal Selling and Salesmanship, Importance of Salesmanship, Qualities of a Good Salesman.

▪ **Product**

Classification of Products, Branding: Meaning, Importance and Benefits, Packaging: Meaning Need and Advantages of Packaging, Labeling: Meaning, Types, Importance and Advantages of Labeling.

▪ **Sales Promotion and Advertising**

Meaning, Objectives and Methods of Sales Promotion, Advertising: Meaning, importance, Types of Advertising, Advantages and Disadvantages, Preparation of an Advertisement, Advertising Agency, Functions of Advertising Agency.

▪ **Consumer Protection**

Meaning of Consumer, Consumer Rights, Meaning and Ways of Consumer Protection, Consumer Protection Act 1986, Redressal machinery under the Act.

▪ **Retail**

Meaning, Types of Retailing and Importance of Retailing.

**SALESMANSHIP - I**

**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 buyer and seller's point of view.
- Describe different methods of advertisement of at least 5 products being sold in your local market.
- Design different types of logo designs.
- Enlist different kinds of packing of various products.
- Identify from newspaper column's the jobs of salesman advertised and the qualification desired, and make a track record of it.

## (v) TRADE : INSURANCE

### 11<sup>th</sup> VOCATIONAL

#### PAPER-I PRINCIPLES AND PRACTICES OF INSURANCE - I

##### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

##### **Risk**

Introduction, Meaning, Definition, Types of Risk - Financial and Non Financial Risk, Individual and Group Risk, Dynamic and Static Risk, Pure and Speculative Risk, Pure Risk - Personal , Property and Liability Risk, Causes of Risk- Natural Causes, Human Causes, Economic and Government Policy, Insurable Risk, Features of Insurable Risk, Uninsurable Risk, Risk Management - Meaning, Control of Speculative Risk, Control of Pure Risk - Steps in Risk Management , Risk Handling Techniques, Reasons of Rise in Risk Management.

##### **Insurance**

Origin, Meaning, Definition of Insurance, Difference between Insurance and Assurance, Features of Insurance, Principles of Insurance, Functions of Insurance – Primary, Secondary and Indirect, Importance of Insurance - to Individual, Business and Society, Prerequisites of Success of Insurance, Limitations of Insurance, Special Terms - Insured & their Types, Insurer, Premium, Claim, Policy, Subject Matter of Insurance.

##### **Scope of Insurance**

Introduction, Types of Insurance - Life Insurance, Health Insurance, Social Insurance, Non Life Insurance - Marine , Fire , Miscellaneous - Motor Insurance, Crop Insurance, Burglary Insurance, Baggage Insurance, Credit Insurance, Engineering, Machinery, Money Insurance.

##### **Marine Insurance**

Introduction, History, Meaning ,Definition and Features of Marine Insurance, Subject Matter of Marine Insurance - Cargo, Hull, Freight and Liability Insurance, Lloyd's Association, Principles of Marine Insurance, Classification of Marine Loss - Total Loss and Partial Loss, Procedure for Buying Marine Insurance, Procedure of Getting Claim,

Various Policies of Marine Insurance - Special Declaration Policy, Voyage Policy, Time Policy, Mixed Policy, Valued and Unvalued Policy, Floating Policy, Wagering Policy, Annual Policy and Duty Insurance.

**Case Study** - Risks Covered in Marine Insurance.

### **Fire Insurance**

Introduction, Meaning, Origin, Features, Objectives, Principles of Fire Insurance, Conditions, Structure of Standard Fire Insurance Policy, Types of Policies - Specific Policy, Loss of Profit Policy, Comprehensive, Floater Policy, Average Policy, Excess Policy, Procedure for Effective Fire Insurance Claim.

**Case Study** - Risks Covered in Fire Insurance

### **Life Insurance**

Introduction, Meaning, Definition, Features, Need, Objectives of Life Insurance, Principles of Life Insurance, Procedure for Buying Life Insurance, Various Policies of Life Insurance - Whole Life, Term, Endowment and Annuity Plans, Procedure of Claim - On Maturity and On Death, Difference between Life, Fire and Marine Insurance.

**Assignment** - Procedure for Buying Life Insurance Policy.

### **Property Insurance**

Burglary Insurance - Meaning, Special Terms, Relevant Insurance Principles, Special Conditions, Elements of Burglary Insurance, Procedure of Insurance, Types of Insurance Policies - Private Dwelling Burglary Insurance Policy, Business Premises, Jewellery and Valuables Policy, Money in Transit Policy, All Risk Policy, Crop Insurance – Introduction, Benefits and Practical Difficulties, Theft Insurance and Baggage Insurance.

## **PRINCIPLES AND PRACTICES OF INSURANCE - I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit any company/organization of your locality and note down the risk handling techniques adopted by the company/organization in case of theft.
- Visit any company/organization of your locality and note down the risk handling techniques adopted by the company/organization in case of fire.
- Visit any company/organization of your locality and note down the activities undertaken by them in case of loss prevention.



- Draw a flow diagram on procedure for Life Insurance claim on Maturity.
- Draw a flow diagram on procedure for Life Insurance claim on Death.
- Draw a flow diagram on procedure for Marine Insurance.
- Draw a flow diagram on procedure for Fire Insurance.
- Draw a flow diagram on procedure for Property Insurance

## **TRADE : INSURANCE**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-II**

#### **INSURANCE LEGISLATION - I**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90 Marks**

#### **Development and Growth of Insurance Industry in India**

History of Life Insurance and General Insurance, Authority - IRDA, Insurance Education, Nationalization of Insurance Industry in India - Legal Structure , Indian Insurance Act 1938 - Introduction, Provisions, Scope, Application and Prohibition, Requirement of Capital, Deposits, Registration, Application, Cancellation and Renewal of Registration, Licensing of Insurance Agents, Investments - Approved Securities, Debentures and Other Securities, Preference Shares, First Mortgage, Immovable Property, Fixed Deposits in Banks, Other Investments, Restriction on Investment, Prohibition of Loan, Investigation, Duties and Powers of Controller.

#### **Life Insurance Act 1956**

Short Title and Commencement, Establishment of Life Insurance Corporation of India, Constitution of Corporation, Capital, Functions, Power to Impose Conditions, Transfer of Existing Life Insurance Business to Corporation, Transfer of Service of Existing Employees to Corporation, Management - Offices, Branches and Agencies, Committees of Corporation, Managing Director, Corporation to be Guided by Directions of Central Government, Liquidation of Corporation, Staff of Corporation, Surplus of Corporation - How to Utilize.

#### **Motor Vehicle Act 1939**

Short Title, Extent and Commencement, Definitions - Driver, Public Place, Fare, Goods Vehicle, Heavy Goods Vehicle, Motor Car, Owner, Permit, Public Career Traffic Signs,

Certificate of Insurance, Necessity of Driving License, Age Limit,

Necessity of Registration of Motor Vehicles, Transfer of Ownership, Necessity of Insurance against Third Party – Exceptions, Limit of Liability, Security to be Deposited by Insurer, Right of Third Party Against Insurers, Rights of Insurers, Transfer of Certificate of Insurer, Production of Certificate of Insurance, Motor Accident Claim Tribunals - Who Can Make Complaint, Provisions of MACT.

### **Documentation and Claim Settlement**

Meaning, Procedure of Settlement of Claim in Motor Insurance, Fire Insurance and Marine Insurance and Insurance Documents Required, Procedure of Claim Settlement in Life Insurance Companies and Insurance Documents .

### **Insurance Regulatory and Development Authority Act 1999**

Short Title, Extent and Commencement, Definitions - Appointed Day, Authority, Chairperson, Intermediary Member, Establishment and Incorporation of Insurance Authority, Composition of Authority, Tenure of Office of Chairperson and other Members, Removal from Office, Salary and Allowances of Chairperson and other Member, Officers and Employees of Authority, Duties Powers and Functions of Authority, Grants by Central Government, Powers of Central Government to Issue. Directions; Powers of Central Government to Supersede Authority;

## **INSURANCE LEGISLATION - I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit a branch of any Insurance Company nearby you and verify Indian Insurance Act 1938 regarding procedure for settlement of claims and prepare a report on it.
- Visit a branch of any Insurance Company nearby you and verify Life Insurance Act 1956 regarding procedure for settlement of claims and prepare a report on it.
- Visit a branch of any Insurance Company nearby you and verify Motor Vehicle Act 1939 regarding procedure for settlement of claims and prepare a report on it.
- Prepare a chart showing salient features of Indian Insurance Act 1938.
- Prepare a chart showing salient features of Life Insurance Act 1956.
- Prepare a chart showing salient features of Motor Vehicle Act 1939.
- Prepare a chart showing duties of IRDA

# TRADE : INSURANCE

## 11<sup>th</sup> VOCATIONAL

PAPER-III

INSURANCE SALESMANSHIP - I

### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

#### **Salesmanship**

Meaning, Definition, Features, Objectives, Qualities of Good Salesman.

#### **Insurance Salesmanship**

Introduction, Meaning, Process of Insurance Salesmanship, Techniques of Canvassing, Strategies of Salesmanship Adopted by Various Companies.

#### **Insurance Documents**

Proposal Form - Detail of Proposal Form, Renewal Form, Cover Note, Endorsement, Policy Document, Claim Form, Certificate of Insurance, Discharge Form.

#### **Structure of Insurance Industry**

History , Meaning and Classification of Insurance Companies, Structure of Insurance Companies - Administrative Department, Finance Department, Operating Department

- Functions of Operating Department - Risk Perception and Evaluation, Designing of

Insurance Product, Marketing of Products, Selling of Products.

#### **Indian Insurance Market**

Introduction, Constituents Companies - Life Insurance Companies, General Insurance Companies and Reinsurance Companies. Intermediaries - Agents, Development Officers, Bank assurance, Internet Marketing, Brokers, Corporate Agency, Specialists

- Surveyor, TPA, Regulatory Bodies - IRDA, Ombudsman, Educational Institutions - Insurance Institute of India [III] - Courses Offered.

Life Insurance Products - Term Plans, Endowment Plans and its Types, Annuities, Whole Life Policies - Types of Whole Life Policies, Child Plans, Retirement Plans, ULIPS - Expenses Deducted under ULIPS, RIDERS - Meaning and Types, Health Plans - Types of Health Plans

General Insurance Products - Marine Insurance Policies, Fire Insurance Policies, Motor Insurance Policies, Burglary Insurance Policies, Personal Accident Insurance

Policies, Rural Insurance Policies, Guarantee Insurance Policies, Non Traditional Insurance Policies, Boiler and Pressure Plant Policy, Cold Storage Insurance Policy, Machinery Insurance Policy, Doctors Composite Package Policy, Lift Insurance Policy.

### **INSURANCE SALESMANSHIP - I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit local agents and make a short report on the techniques of canvassing to get business results.
- Draw a flow diagram of recruitment procedure of an Insurance agent.
- Visit Development Officers of any Insurance Company in your locality to know there strategies of salesmanship.
- Show the recruitment procedure of Development Officer through flow chart.
- Visit a training wing of any Insurance Company and note down the training process imparted by the company.
- Visit any general insurance company and make a report on policies issued by them.
- Visit any branch of LIC and make a report on policies issued by them.
- Visit any private life insurance company any make a report on policies issued by them.
- Make an assignment on constituents of Indian Insurance market.
- Make a flow chart on structure on Indian Insurance Companies.

### **(v)TRADE : TAXATION PRACTICE**

#### **11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**ELEMENTS OF BOOK - KEEPING - I**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Introduction to Book Keeping and Accounting**

Book Keeping Meaning, Characteristics and Process, Book Keeping System in Banks, Accounting Meaning, Characteristics, Process, Objectives, Advantages and Limitations. **Basic Accounting Terms**

Business Transactions, Assets, Liability, Capital, Expense, Income, Expenditure, Revenue, Debtors, Creditors, Goods, Cost, Gain, Stock, Purchase, Sales, Loss, Profit, Cost of Goods Sold, Gross Profit, Discount, Cash, Debit, Credit, Account, Discount, Drawings, and Equity. **Theory Base of Accounting** Accounting Principles, Assumptions/ Concepts and Conventions, System of Accounting, Cash Basis and Accrual Basis, Vouchers and their Types.

#### **Goods and Service Tax**

Meaning, Characteristics, Objectives, Advantages, Limitation and Accounting Entries under GST.

### **Accounting Equation**

Meaning and Process, Double Entry System - Meaning, Features, Advantages and Limitations, Objectives, Classification of Accounts - Traditional and Modern Classification.

### **Recording of Business Transactions**

Rules of Debit and Credit (According to Traditional and Modern Approach).Preparation of Journal (Meaning, Features, Advantages and Format), Preparation of other Subsidiary Books (Meaning and Format), Cash Book (Simple, Double, Three Column, Bank Column and Petty Cash Book), Purchase Book, Sale Book, Purchase Return and Sale Return Book. Ledger (Meaning, Advantages and Format), Posting from Journal and Subsidiary Books in Ledger and Balancing of Ledger.

### **Trial Balance**

Meaning, Features, Advantages, Limitations, Preparation of Trial Balance with Balance Method and Total Method.

### **Rectification of Errors**

Meaning, Need, Advantages and Objectives, Classification of Errors, Detection and Rectification of Errors, Preparation of Suspense Account.

### **Final Account**

Preparation of Trading Account, Profit & Loss Account and Balance Sheet from given Trail Balance (Without Adjustments).

### **Accounting using Tally**

Company Creation in Tally, Accounts Group in Tally (to know about pre-define groups and learn to create in groups), Account Ledger Creation in Tally, Voucher Entry in Tally

## **ELEMENTS OF BOOK - KEEPING - I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Prepare a project report on the various books and ledgers maintained by a business house/ institution in your locality.
- Visit to a bank branch and observe various functions of the bank and write a report on the same.
- Prepare a project report on profit & loss and balance sheet of a business Firm/ institute with imaginary figures.
- Write the steps to create a new company in Tally and also explain the all reliable fields in company creation window.
- Prepare a list of default group, default ledger Account and various Vouchers as given in tally software and paste in a file.

- Record at least twenty transactions in tally software and take printout of a day book and paste in a file.
- Make assignment on the process of recording transactions in various books. Like Journal to Ledger and preparing trial balance.



# TRADE : TAXATION PRACTICE

## 11<sup>th</sup> VOCATIONAL

### PAPER-II

### PRINCIPLES OF MANAGEMENT – I

#### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

#### 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.

### PRINCIPLES OF MANAGEMENT – I

Time : 3 hrs

PRACTICAL

Marks : 50

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

of the institution.

- Prepare a report about the techniques of management which is used in your school during any function.

- Prepare a report on methods of training used by organization.
- Visit an organization in your locality and prepare a report on controlling techniques used by such organization.
- Make a comparative study of formal and informal organization.

## **TRADE : TAXATION PRACTICE**

### **11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**FUNDAMENTALS OF INCOME TAX -I**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Fundamental Concepts**

Tax, Assessment, Bonus, Income, Assessee, Individual, Previous Year, Assessment Year, Person, Gross Total Income, Fees and Commission.

#### **Residential Status**

Meaning, Types, Determination of Residential Status of a Person, Hindu Undivided Family (HUF) and a Company. Effect of Residential Status on tax Liability of a person in case of different income.

#### **Salary income**

Meaning of Salary, Provident Funds ,Allowances and their types.

#### **Income from House Property**

Meaning, Conditions, Rules, Exempted House Property Income, Annual Value, Different type of Rental Value.

#### **Income from Business, Profession and Vocation**

Meaning of Business, Profession and Vocation, Rules for Computation of Income from Business or Profession.

#### **Income from Capital Gain**

Meaning and types of Capital Assets and Capital Gain, Calculation of capital gain when index value is given.

#### **Income from Other Sources**

Meaning, Explain Items Classified as income from other sources.

#### **Set Off and Carry Forward of Losses**

## **Some Specific Deductions**

80C, 80D, 80G, 80U etc to be Made from gross total income

**Rebates from tax liability**

U/s 86, 87 (a)

**Exemptions**

Agriculture Income, Share of Income from Hindu Undivided Family, Share of Income from Firm, Share of Income from AOP, Dividend from Indian Company, Interest on PPF, Long Term Capital Gain on Eligible Equity Share, Interest on Saving Account.

**Agricultural Income**

Meaning, Tests to Determine Agricultural income, Kinds of Agricultural Income.

**Companies :** Meaning and Types,

Co-operative Societies : Meaning and Types.

**Computation of tax Liability of Individuals. Good and Service Tax**

Meaning of GST, Important Definitions of GST, Components of GST ( CGST, SGST, IGST), Advantages of GST, Meaning of supply, Scope of Supply.

**FUNDAMENTALS OF INCOME TAX -I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit to income tax office and prepare a project report on the working of various sections of income Tax office.
- Prepare income statements of persons of your locality and compute their Tax Liability.
- Prepare a Report regarding calculation of rebate share from AOP (Association of Person) U/S 86 using imaginary figures.
- Make an assignment of filling forms of income tax by downloading. (any 5 different cases)
- Visit a Sale Tax Office and prepare a project report on the working of various sections of sale tax office.

**(vi)TRADE : IMPORT AND EXPORT MANAGEMENT**

**11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**MANAGEMENT - I**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

**Management**

Meaning, Features and Objectives, Importance, Functions and Principles of Management.

**Planning**

Meaning, Features, Importance, Advantages and Limitations.

**Organization**

Meaning, Features, Importance, Objectives, Principles, Formal and Informal Organization.

**Delegation**

Meaning, Principles, Responsibility, Accountability, Centralization and Decentralization.

**Staffing**

Meaning, Human Resource Management, Recruitment, Selection: Meaning and Process, Training: Meaning and Types of Training, Wage Payment, Method of Wage Payment

**Directing**

Meaning, Supervision and Communication

**Controlling**

Meaning, Features, Importance and Limitation.

**MANAGEMENT – I**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit a firm/ enterprise/ Institute and report the functions performed by its management.
- Group discussion on planning of time distribution to achieve your carrier goals. Record the views in a file.
- Visit a business house/ Institution and prepare a project report on the organization setup of the enterprise.
- Visit a bank/ firm or any institution and prepare a project report on division of work among the staff by Institutions management.
- Collection of advertisement regarding recruitment from news paper, magazine, internet etc, and paste them in a file.
- Make a project on selection procedure adopted by three organizations for staffing.
- Group discussion on ways of communication adopted by companies in the present era. Record the views in a file.

# TRADE : IMPORT AND EXPORT MANAGEMENT

## 11<sup>th</sup> VOCATIONAL

### PAPER-II

### TECHNOLOGY AND E-COMMERCE – I

#### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

#### Information Technology

Meaning, and Scope of Information Technology, Fundamentals of Computer, Hardware Concepts (Input and Output), Memory System of Computer, Software Concepts, Meaning of Internet, Ways to Internet Connectivity, Browser, Search Engines.

#### MS-WORD

Beginning with Word Entering Text, Selecting Text, Deleting Text, Coping, Cutting and Pasting Text, Finding and Replacing Text, Formatting Text, Checking and Correcting Mistakes, Spellings, Formatting with Word: Simple Character Formatting, Changing Fonts and Colors of Text, Inserting Bullets & Numbering, Tables, Clip Art. Paragraph Formatting: Center Align, Left Align, Right Align and Justify Text, Tab Setting, Setting Indentation and Spacing, Ruler Setting, Page Margin, Inserting Line and Page Brakes, Header and Footer, Page Setup of a Document, Inserting Date and Time, Previewing Document, Saving a Document, Printing a Document.

#### MS-EXCEL

Starting with Excel, Entering Work Sheet Data, Entering Text, Entering Numbers, Entering Number and Formulas, Entering Date and Time, Opening a Workbook, Saving a Work Book and Printing a Worksheet/ Workbook. Editing Excel Worksheets and Spreadsheets, Selecting Cells, Editing Cell Contents, Inserting and Deleting Cells, Inserting and Deleting Rows and Columns, Working with Work Sheet Ranges, Using Cut, Copy and Paste Options, Clearing Data, Using Formulas and Functions, Using and Coping Formulas. Using Auto Sum for Efficiency, Common Functions: Sum(), Average(), Max(), Min(), Count(), Countif(), Counta(), Using Paste Functions, Formatting Worksheets: Center Aligning, Left Aligning, Right Aligning and Justifying Cell Content, Row and Column Height, Changing Width and Font.

#### MS-POWERPOINT

Power Point Elements, Templates, Widgets, Dialogue Box, Adding Text, Adding Little Moving Text Area, Resizing Text Boxes, Adding Pictures, Stating a New Slide, Saving, Presentation Printing Slides, Views(Slide View, Sorter, Notes, Outline View) Formatting or Enhancing Text Formatting. Choosing Transition, Creating, Displaying Slide Show, Adding Multimedia. Slide Transition, Timing Slide Display, Adding Movies and Sound.

#### INTERNET AND E-COMMERCE

Meaning, Uses of e-commerce, Method, B2B, B2C, P2P, e-commerce in India, Meaning of e-payment, Transaction through Internet, Requirements of e-payment System, Post Paid and Instant Paid System of e-payment. e-security, e-banking, e- trading and e-marketing

## TECHNOLOGY AND E-COMMERCE – I

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Logging into internet.
- Navigation for seeking information.
- Searching information on internet.
- Sending and receiving e-mails.
- Purchasing through net.
- Browse internet and collect information about each hardware component of your computer.
- Enlisting of essential software for a computer for office use with detailed information acquired from internet about utility of each software.
- Creating, formatting and page setup a document in MS-Word keeping the following areas in mind: Folder creation, font size, type style. Alignment –left, right, center, justify. Page setting: left margin, right margin, top margin, Bottom margin. Finding and replacing words, spell check or corrections. Saving in the newly created folder, printing the document. Practical file should contain at least 10 printouts of best documents out of total documents typed over the year by student.
- Creating a spread sheet with at least 6 -8 columns and 7-10 rows in MS-Excel. Calculations (MAX, MIN, AVERAGE, SUM, or simple arithmetic operations).
- Creating a presentation in MS-PowerPoint with at least 5-6 slides including bulleted points, insertion of a picture/clipart, slide transition effects and custom animations, saving and printing the presentation created over a year by a student.

## TRADE : IMPORT AND EXPORT MANAGEMENT

**11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**EXPORT MANAGEMENT**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Meaning, Foreign Trade Policy 2015-20, 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.
- 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.
- Documentation of Export, Bill of Lading/ Airway Bill, Commercial Invoice cum Packing List, Shipping



Bill/Bill of Export.

## EXPORT MANAGEMENT

Time: 3 hrs

### PRACTICAL

Marks : 50

- Browse the internet and collect different types of sample export documents.
- Enlist the different items of export by India with showing export data of each item.
- Prepare a detailed list of organizations (at least 10) engaged in export business in India.
- Visit to any organization/ showroom/ shopping mall/ office and report on its method of correspondence.
- Group discussion on how to select product for export and record the views in a file.
- Group discussion on how to make effective business correspondence and record the views in a file.
- Prepare a shipping bill of Lading, commercial invoice on exercise given by your teacher.

## (vii) TRADE : CO-OPERATIVE MANAGEMENT

### 11<sup>th</sup> VOCATIONAL

PAPER-I

### BOOK-KEEPING – I

#### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90 Marks

#### Introduction to Book Keeping and Accounting

Book Keeping Meaning, Characteristics and Process.

Accounting Meaning, Characteristics, Process, Objectives, Advantages and limitations.

#### Basic Accounting Terms

Business transactions, Asset, Liability, Capital, Expense, Income, Expenditure, Revenue, Debtors, Creditors, Goods, Cost, Gain, Stock, Purchase, Sales, Loss, Profit, Cost of Goods Sold, Gross Profit, Discount, Cash, Debit, Credit, Account, Discount, Drawings and Equity. **Theory Base of Accounting**

Accounting Principles, Assumptions/ Concepts and Conventions.

System of Accounting: Cash Basis and Accrual Basis.

Vouchers and their Types.

Goods and Service Tax: Meaning, Characteristics and Objectives, Advantages and Limitation.

Accounting Equation: Meaning and Process.

Double Entry System: Meaning, Features, Advantages and Limitations, Objectives.

Classification of Accounts: Traditional and Modern Classification.

#### Recording of Business Transactions

Rules of Debit and Credit (According to Traditional and Modern Approach)

Preparation of Journal (Meaning, Features, Advantages and Format). Preparation of Other Subsidiary Books (Meaning and Format): Cash Book (Simple, Double, Three Column and Petty Cash Book), Purchase Book, Sale Book, Purchase Return and Sale Return Book.

Ledger (Meaning, Advantages and Format), Posting from Journal and Subsidiary Books in Ledger and Balancing of Ledger.

### **Trial Balance**

Meaning, Features, Advantages, Limitations. Preparation of Trial Balance with Balance method only.

### **Rectification of Errors**

Definition, Need, Advantages and Objectives. Classification of Errors, Detection and Rectification of Errors. Preparation of Suspense Account.

### **Final Account**

Preparation of Trading Account, Profit and Loss Account and Balance Sheet from given Trail Balance (without Adjustments).

Book Keeping System in Banks.

### **Accounting with Tally**

Setup and Installation of Tally, Understanding Gateway of Tally, Company Creation in Tally, Accounts Group in Tally (to Know about Pre-define Groups and learn to create in groups), Account Ledger creation in Tally, Voucher Entry in Tally.

## **BOOK-KEEPING - I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Prepare a project report on the various books and ledgers maintained by a business house/ institution using imaginary figures.
- Visit to a bank branch and observe various functions of the bank and write a report on the same.
- Prepare a project report on profit and loss and balance sheet of a business Firm/ institute in your locality.
- Write the steps to create a new company in Tally and also explain the all reliable fields in company creation window.
- Prepare a list of default group, default ledger Account and various Vouchers as given it Tally Software and paste in a file.
- Record at least twenty transactions in Tally software and take printout of a day book and paste in a file.

- Visit any firm/organization and prepare the cash book from given information.
- Prepare of chart showing head of accounts on debit and credit side of Trial Balance.
- Prepare a chart showing different types of error in the books of accounts and make rectified entries of each.
- Prepare a detailed format trading account, profit and loss account and balance sheet.

# TRADE : CO-OPERATIVE MANAGEMENT

11<sup>th</sup> VOCATIONAL

PAPER-II

MANAGEMENT

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

## Management

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

## Planning

Meaning, Features, Nature, Importance, Advantages and Limitations.

## Organization

Meaning, Features, Importance, Objectives, Principles, Formal and Informal Organization.

## Delegation

Meaning, Principles, Responsibility, Accountability, Centralization and Decentralization.

## Staffing

Meaning, Human Resource Management, Recruitment, Training and Wage Payment.

## Coordination

Meaning, nature and importance, principles, techniques, process.

## Directing

Meaning, Supervision and Communication.

## Controlling

Meaning, Features, Importance and Limitation.

## Financial Management

Definition, Objectives, Functions.

Financial Planning: - Characteristics of Financial Planning, Importance of Financial Planning, Objectives of Financial Planning. Steps of Financial Planning, Limitations of Financial Planning.

## **Financial Market**

Meaning, Capital Market, Elements of Capital Market, Nature of Capital Market, Function of Capital Market.

## **Marketing**

Definition, Nature, Concepts, Marketing and Selling, Differences between Marketing and Selling. Objectives of Marketing, Advantages of Marketing.

Marketing Management: - Objectives, Nature, Process Of Marketing.

# **MANAGEMENT**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Visit a business enterprise/Institution and prepare a project report on the management of the enterprise.
- Visit a business house/ firm/ institution and prepare a project report on the salary structure of the institution.
- Prepare organizational structure of any Government/ Private Organization.
- Visit any financial institutions/Banks and enlist the steps of financial planning.
- Visit any Company/Organization in your locality and enlist the Marketing process.
- Visit any local co-operative organization and enlist the components of business environment affecting that business concern.
- Prepare a project report of planning for Built new organization.
- Enlist the Levels of management of any Multinational companies like Reliance, TATA and specify the position and role of executive at each level.
- Prepare the chart showing of communication structure of any organization.
- Prepare the chart showing structure of centralization and decentralization of any organization

# TRADE : CO-OPERATIVE MANAGEMENT

11<sup>th</sup> VOCATIONAL

PAPER-III

CO-OPERATIVE MANAGEMENT-I

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

## Co-Operation

Meaning, Principles of Co-operation, Reformulation of Principles, Classification of Co- operative Societies, Features of Co-operation,

## Co-operation and other Business Enterprises

Important Aspects of Co-operation, Co-operation and other Economic Systems, Co- operation and Other Business Organizations, Co-operation and Economic Development.

## Co-operative

A Special Form of Business Organization. Objectives of Co-operation, Importance, Advantages and Disadvantages of Co-operation.

## Co-operation In India

Different Stages of Development of Co-operative in India.

## Problems of Co-operation

Unlimited vs Limited Liabilities, Single vs Multipurpose Societies, Producers vs Consumer Societies

## Organization Of Co-operatives

Credit Co-operatives, Classification of Credit Co-operatives, Agricultural Credit, Co- operative Structure,

## Primary Agriculture Credit Societies

Objects, Memberships, Source of Funds, Functions Primary Agriculture Credit Societies, Security Rate of Interest, Repayment of Loan, Over Dues, Crop Loan, Linking Credit With Marketing , Distribution of Profit. Multipurpose Co-operative Societies. Drawbacks of Primary Agriculture Credit Societies, Suggestion to Improve the Efficiency of these Societies.

### **Central Co-operative Banks**

Need for Central Co-operative Banks, Types of Central Co-operative Banks, Their Functions, Source of Funds, Management Progress.

### **District Central Co-operative Bank**

Constitution of DCCB, Size and Area of Operation, Funds of DCCB, Share Capital, Owned Funds, Borrowing Power of DCCB, Performance of DCCB, Drawbacks of DCCB, Suggestion for Improvement.

### **State Co-operative Banks**

The Constitution, Functions and Objects, Working Capital, Source of Funds, Loan Operation, Suggestion for Improvement.

### **Co-operative Land Development Banks**

Objectives Sources of Funds, Non Agricultural Credit Co-operatives, Co-operative Urban Banks, their Functions, Sources of Funds.

### **Co-operative Marketing**

Definition, Objectives, Functions, Regional Marketing Co-operative Societies , State Co- operative Marketing Federation, National Agricultural Co-operative Marketing Federation, Co-operative Processing Development In India, Co-operative Sugar Factories, Co- operative Food Grains Processing Units, Vegetable And Fruit Processing Units, Oil Seeds Processing Units And Cotton Processing Units.

## **CO-OPERATIVE MANAGEMENT -I**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

Visit an agricultural co-operative society running in your locality and study its structure

- Visit any agriculture co-operative society and showing the chart of its 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.
- Visit any central co-operative bank and prepare a chart showing its structure, loan procedure and source of funds.
- Visit any district central co-operative bank and prepare a chart showing its share capital
- Visit a co-operative Marketing federation e.g. Milked and study its structure aims, Membership,
- Visit co-operative marketing federation and enlist the sources of funds and services provided by it to members in particular and society at large. Prepare a project report on its working.
- Visit any co-operative societies and prepare a project report for eligibility of members.
- Visit any processing unit and prepare a chart on its structure and management.





### III HOME SCIENCE GROUP

#### (i) TRADE : FOOD PRESERVATION

#### 11<sup>th</sup> VOCATIONAL

PAPER-I

FUNDAMENTAL OF FOOD PRESERVATION

THEORY

Time : 2 hrs

Theory : 30Marks

CCE : 10Marks

Practical : 50 Marks

Total : 90Marks

#### **Food**

Definition, Classification, Functions of Food, Basic Food Groups and Sources and Functions of Various Nutrients.

#### **Food Preservation Industry**

Need, Future Scope and Role in the Economy of Country with Special Reference to Punjab, Contribution of Seasonal Crops in Economy of Punjab, Processing of Seasonal Fruits and vegetables - Guava, *Kinoo*, Potato, Onion etc, Role of Food Processing in Raising the Living Standard of People, Scope and Present Status of Food Processing Industry in Punjab.

#### **Food Processing**

Effects of Processing and Storage on the nutritive Value, Colour, Appearance, Texture, Flavour and Overall Acceptability of Foods.

#### **Post-Harvest Process**

Post Harvesting Processes Fruits and Vegetables - Surface Coating, Low Temperature, Maturity and Ripening and Deep Freezing, Processing and Storage of Fruits and Vegetable at Domestic and Commercial Level, Packaging and Refrigeration of Chopped Vegetables at Small Scale.

#### **Food Additives**

Properties and Uses of Spices, Preservatives, Flavours and Colors.

#### **Equipments**

Simple Equipment and their use - Thermometer, Gelmeter, Hygrometer, Salinometer and Repractameter , Hydrometer

#### **Laboratory Processes**

Simple Laboratory Processes in Food Industries- Pasteurization, Homogenization, Filtration, Distillation, Evaporation, Condensation.

#### **Power of Hydrogen (pH)**

Nutrition, Meaning, Effect, Mode of Detection, Balance, Measuring Scale and its Role in Food Preservation.

## FUNDAMENTAL OF FOOD PRESERVATION

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Traditional, common, advance tools of weights and measurement on demosaic level and commercial level.
- Make a conversions list of measuring tools.- measuring cup and spoons.
- Use of simple equipment used in the food industry such as thermometer, gel-meters, hygrometer, refractometer and salinometer.
- Use of simple equipment used in the food industry such as cutlery, crockery, hollowware, chinaware etc.
- Simple processes like distillation, evaporation, condensation, pasteurization and homogenization.
- List of perishable and non perishable fruits and vegetables.
- Methods of increasing shelf life of perishable fruits and vegetables foods by surface coating and low temperature.
- Report on Market surveys - type of food available, prices, handling techniques (container, bags etc.) twice in a month.
- Preparation and standardization of normal solutions for canning.
- Determination of acidity and alkalinity by pH.
- Visit to orchard/ market to observe stages of maturity of locally grown vegetables and fruits and make a report based on observations.

## **TRADE : FOOD PRESERVATION**

### **11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**FOOD MICROBIOLOGY AND QUALITY CONTROL**

**THEORY**

**Time : 2 hrs**

**Theory : 30Marks**

**CCE : 10Marks**

**Practical : 50 Marks**

**Total :90Marks**

#### **Food Micro Organism**

Defination,Types,Mould, Yeast & Bacteria and their Advantage and Disadvantages with reference to Food.

#### **Food Spoilage**

Meaning, Physical, Microbial and Enzymatic Changes in Food.

#### **Contamination**

Meaning,Types,Cause, ,Control of Contamination in Preserved Foods.

#### **Food Poisoning**

Definition, Types, Causes and Control, difference between Spoilage and Poisoning.

#### **Food Quality**

Meaning,Attributes, Evaluation,Quality Control Methods, System and Scope.

#### **Food Standards & Specifications**

Food Laws Governing FPO, MFPO, PEA, ISI, AGMARK, FSSA (Food Safety & Standard Act).

#### **Food Adulteration**

Meaning, Types of Common Adulterants, Simple Detection Techniques.

## FOOD MICROBIOLOGY AND QUALITY CONTROL

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Use of microscope, its parts, accessories and their use.
- A visit to microbiological laboratory in the area and detect microorganism present in curd and milk.
- Method of preparing slides of harmful microorganism present in food.
- Practical observation and identification of common organisms causing food spoilage.
- Simple techniques of detecting food adulteration.
- Methods of detection of spoiled cans and care while consuming high pH foods.
- Fermentation techniques for juices and beverages (alcoholic beverages).
- Preparation of Brew Vinegar and Synthetic Vinegar.
- Determination of total soluble solids by refractometer - hygrometer salinometer and gel meter etc.
- Make a scrap file of labels of packed food showing measures of quality control.

# TRADE : FOOD PRESERVATION

## 11<sup>th</sup> VOCATIONAL

PAPER-III

FOOD PRESERVATION TECHNIQUES

THEORY

Time : 2 hrs

Theory : 30Marks

CCE : 10Marks

Practical : 50 Marks

Total :90Marks

### **Food Preservation**

Definition, Importance, Principles and Methods of Food Preservation.

### **Preservation by Salt**

Principles and Process of Salting, Brining, Curing and Pickling, Limitations.

### **Preservation by Sugar**

Principles involved in Jams, Jellies and Marmalades, Glazing, Crystallization, Limitations.

### **Preservation by Chemical**

Introduction and Uses of Class I and Class II Preservatives, Limitations.

### **Food Preservation by Low Temperature**

Refrigeration and Freezing, Storage and Spoilage, Advantages and Disadvantages.

### **Dehydration and Rehydration**

Methods - Sun Drying and Mechanical, Principles, Factors affecting Drying, Types of Dehydrators, Dehydration & Rehydration Ratios.

### **Fermentation**

Types - Alcoholic, Acetic and Lactic Acid Fermentation in Foods, Factors Controlling Fermentation & Importance of Fermentation in the Diet.

### **Advanced Methods of Preservation**

Introduction, Application, Uses and Limitations of Irradiation, Antibiotics, Controlled Atmospheric Storage.

### **Pectin**

Definition, Sources, Properties, Uses and Grades.

### **Junk Food**

Meaning, Classification, Merits and Demerits.

## FOOD PRESERVATION TECHNIQUES

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Preparation, organoleptic evaluation and costing of –pickles.
- Preparation, organoleptic evaluation and costing of - jams &marmalade.
- Preparation, organoleptic evaluation and costing of - sauces, ketchup,chutneys.
- Preparation, organoleptic evaluation and costing of - fruit juices, squash, crush, cordial, sweetened juices, fruit & synthetic syrups, fruittoffees and fruit candies.
- Preparation, organoleptic evaluation and costing of – *pappad&varian*.
- Sun drying of seasonal vegetables and calculating their dehydration and rehydration ratio.
- Dehydration of available vegetables/ fruits usingmicrowave.
- Visit to cold store & food processing industry & report writing for thesame.
- Prepare a scrap file of packaging/ photos of food preserved by different techniques.

## (ii)TRADE : GARMENT MAKING

**11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**TEXTILE SCIENCE**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

### **Fibers**

Introduction, Classifications, Physical and Chemical Properties, Identifications, Uses, Care and Description of - Natural Fibers, Vegetable Fibers - Cotton and Linen, Animal Fibers - Silk and Wool, Manmade and Synthetic Fibers - Rayon and Nylon.

### **Yarns**

Types of Yarns, Simple Yarns - Single, Multi-Ply, Cable or Cord, Novelty Yarns - Slub, Flock, Boucle, Loop, Ratline & Gimp, Nub & Knot Stitch, Cock screw and Chanile Yarns, Textured Yarns.



## **Weaves**

Introduction to different types of Weaves, Plain Weaves - Rib, Basket, Twill, Satin, Sateen, Novelty Weave - Pile (Cut and Uncut), Leno, Dobby, Jacquard, Crepe, Grain of Fabric - Definition & Types of Grain, How to Identify Grain in a Fabric, Parts and Working of a Traditional Loom.

## **Dyes**

Introduction to Dyeing, Classification of Dyes as per their Application - Natural, Direct, Acidic, Basic, Sulphur Soluble Vat, Reactive, Disperse, Oxidation Dyes and Pigment Colors.

## **Finishes**

Purpose, Types & Understanding the Effect of Some Common Finishes used in Textile Industry like Mercerization, Sanforisation, Sizing, Crease Resistance, Calendaring, Tentering and Embossing., Waterproof and Water Repellent Finish, Bleaching, Study of various kinds of Stains on Textile and their Removal.

## **Printing**

Hand Printing - Block Printing, Screen Printing, Stencil Printing, Machine Printing - Roller Printing, Resist Printing, Discharge Printing.

### **TEXTILE SCIENCE**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various textiles fibers by physical (burning and microscopic) and chemical (solubility) methods.
- Methods of washing, bleaching, starching, drying and ironing of various fabrics.
- Color fastness test to heat, sunlight, gas fumes, perspiration, humidity, washing, crocking and ironing on colored natural fabrics.
- Identification of various types of vegetable, animal, chemical and mineral stains and their removal.
- Making samples of block printing, stencil printing and screen printing.
- Making samples of tie and dye techniques.
- Identification of simple & novelty weaves by using samples of fabrics.
- Show the pattern of simple weaves on graph paper as well as with the use of ribbons.
- Making one article using block printing or tie & dye techniques.

# TRADE : GARMENT MAKING

## 11<sup>th</sup> VOCATIONAL

### PAPER-II

### DESIGNING AND PATTERN MAKING

#### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

#### Design

Concept and types - Structural and Applied, Elements of Design - Line, Color, Texture, Form and Shape, Line - Straight, Vertical, Diagonal, Horizontal and Curved lines, Color - Theory of Color, Qualities of Color, Color Wheel, Color Schemes, Psychological Impact of Colors, Factors Affecting Choice of Colors, Principles of Design - Balance, Harmony, Rhythm, Proportion, emphasis in relation to apparel.

#### Sketching

Tools for Drawing and Sketching, Figure Sketching - Normal Figure, Fashion Figure, Block Figure, Flesh Figure, Eight Head Theory, Optical Illusions of - Inner Lines, Vertical Lines, Horizontal Lines, Diagonal & Curved Lines, Big and Small Checks, Outer Lines - Rectangular, Circular, Square, Triangular, Inverted, Triangular, Wide and Narrow Panels of Various Garments, Sleeves, Collars, Neck Lines, Yokes and Pockets.

#### Introduction

Measuring, Marking, Drafting, Cutting, Sewing and Finishing Tools.

#### Paper Pattern

Purpose, Principles, Techniques and use in Lay Out and Cutting, Types of Paper Pattern - Individual, Fitting, Readymade and Commercial, Terminology related to Pattern Making.

#### Measurements

Define Anthropometry, Importance of Accurate Body Measurements, Locating Proper Measuring Points for Children, Women and Men, Classification of Body Measurements, Direct and Indirect Measuring Methods, Standard Measurements for Children (Measurement Charts for Upper and Lower Body Garments).

#### Pattern Manipulation

Introduction to Pattern Manipulation and Principles of Pattern Manipulations, Adaptation of Basic Paper Pattern to Size, Shape, Darts and Fullness, Method of Adaptation of Basic Bodice Block for Developing Garment Patterns of A-Line Frock, Gathered Frock and Romper, Adaptation of Basic Bodice Block To Collar - Cape, Peter Pan, Baby, Bishop, Chelsea, Basic Sleeve

Adaptation - Puff, Cap, Bell, Shirred & Ruffle, Yoke Manipulations.

### **Textile Painting and Printing**

Meaning, Difference, Uses and Methods - Temporary and Permanent.

## DESIGNING AND PATTERN MAKING

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Design - basic lines, color - wheel, tints and tones, combinations and schemes, texture - textural combinations with fabric samples.
- Sketching - floral and geometrical motifs, block figure, flesh figure, normal and fashion figure, composition of figures with pencil shading and color media, flesh figures with garments for ladies and children keeping in view the modern trends of fashion.
- Taking body measurements, their sequence and application in drafting and cutting.
- Drafting child's bodice block.
- Drafting child's sleeve block.
- Adjustment in block pattern of children.
- Drafting of A-line and Gathered frock.
- Drafting of romper.
- Drafting of night suit.
- Making paper pattern of basic bodice block, sleeves - puff, cap, bell, shirred & ruffle and collars - cape, peter pan, baby, bishop, chelsea.
- Making different types of texture paintings by using color schemes. Vegetable textures (onion, potato, lady finger, lotus stem), wax drop and wax rub textures, fevicol texture, spray texture, dry brush effect, leaf texture, thumb printing, sand texture, smoke texture, thread rolling, thread crumple and thread pulling textures.

# **TRADE : GARMENT MAKING**

## **11<sup>th</sup> VOCATIONAL**

### **PAPER-III**

### **CLOTHING CONSTRUCTION**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Sewing machine**

Types - Hand, Treadle and Electric, Main Parts, their Operations and Safety Measures, Different Types of Stitching Adjustments, Attachments and their Uses, Minor Defects and their Remedies - Manual Machine Only, Sewing Threads - their Number, Sizes and Uses with relation to Needle and Cloth.

#### **Basic Processes for Garment Making**

Basic Stitches - Even and Uneven Basting, Running Stitch, Back Stitch, Blanket Stitch, Button - Hole, Hemming, Slip Stitch - Invisible Hemming, Lock Stitch, Decorative Stitches - Lazy-Daisy, Chain, Satin Stitch, Herring Bone, Feather-Long and Short, French Knot, Patch Work, Mirror Work Cross Stitch and Beading, Seams and Seam Finishes - Plain Seam, Counter Hem Seam, Lapped Seam, Run & Fell Seam, French Seam and Top Seam.

#### **Principles of Garments Making**

Preparation of Fabric - Shrinking, Straightening, Ironing, Placing, Marking, Cutting and Handling of various type of Materials, Selection of Trimmings, Supporting Fabric - Lining, Interlining, Fastener.

#### **Disposal of Fullness Pleats**

Knife, Box, Inverted, Darts, Tucks - Pin Tucks, Inverted Tucks, Cross Tucks, Space Tucks, Shell Tucks and Wide Tucks, Gathers, Smocking, Shirring, Couching, Frills and Ruffles, use of Can - Can Net Fabric.

#### **Plackets**

One Piece and Two Piece Placket Opening for - Ladies' Shirt/ Kurta, Pant, Skirt, Gents' Shirt/ Kurta, Pant and Shirt.

#### **Fastener**

Press Buttons, Hooks and Eyes, Eyelets Buckles, Button, Button Holes, Zippers, Velcro Tape, Ring Buttons and Jean Buttons.

#### **Edge Finishes**

Facing and Binding Both Biased and Shaped, *Pico*, Interlocking and Pinking.

## CLOTHING CONSTRUCTION

Time: 3 hrs

PRACTICAL

Marks : 50

- Identification and maintenance of tools and equipments of dress making.
- Sewing machine (manual only) - types, main parts, operation and care, main adjustments while operating sewing machine, special attachments and their use, minor defects and rectification.
- Selection and use of different threads and needles for various fabrics.
- Making samples of -
  - Basic stitches - even and uneven basting, running stitch, back stitch, blanket stitch, button-hole, hemming, slip stitch - invisible hemming, lock stitch.
  - Decorative stitches - lazy-daisy, chain, satin stitch, herring bone, feather-long and short, french knot, patch work, mirror work, cross stitch and beading.
  - Seams - plain seam, counter hem seam, lapped seam, run & fell seam, french seam and top seam.
  - Disposal of fullness pleats - knife, box, inverted, darts, tucks - pin tucks, inverted tucks, cross tucks, space tucks, shell tucks and wide tucks, gathers, smocking, shirring, couching, frills and ruffles and use of can - can net fabric.
  - Fasteners - press buttons, hooks and eyes, eyelets buckles, button, button holes, zippers, Velcro tape, ring buttons and jean buttons.
  - Edge finishes - facing and binding both biased and shaped, *pico*, interlocking and pinking.
- Drafting, pattern making and stitching of basic bodice block and basic sleeve block for children, drafting, pattern making and stitching of - formal baby frock, romper, night suit, skirt-top.
- Adapting the basic blocks for making the garments of children - frocks, shorts, romper, night suit.

- Estimation of the fabric - simple cotton and silk/ synthetic, accessories on the basis of body measurements of children of different age groups.
- Fitting, finishing, ironing and folding of the above children garments.
- Make a Party wear frock for kids using any two design features - tucks, pleats, gathers, shirring, couching, decorative embroidery stitches etc.

**(iii) TRADE : TEXTILE**

**DESIGNING 11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**TEXTILE TESTING SCIENCE**

**THEORY**

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Fibres: Introduction to Textiles Fibres, Classification and Description of Various Textile Fibres (Natural, Manmade and Synthetic), Physical and Chemical Properties for Identification, Use and Care.
- Yarn Numbering System – direct and indirect numbering.
- Yarn: Types of Yarns – Single Ply, Double Ply, Novelty, Textured Yarns.
- Dyes: Introduction to Dyeing, Classification of Dyes as per their Application - Natural, Direct, Acidic, Basic, Sulphur, Indigo-sol, Soluble Vat, Reactive, Disperse, Naphthol or Azoic, Chrome, Oxidation Dyes and Pigment Colours.
- Finishes - Purpose, Types and Effect of Some Common Finishes used in Textile Industry Like, Sizing, Sinzeing Crease Resistance, Tentering and Embossing Water Proof Finish, Water Resist.
- Introduction to Finishing Process-Mercerisation, Sanforisation, Calendaring, Decatizing
- Introduction to Different Fastness Tests (Light, Washing, Crocking).
- Introduction to Different Illuminants used for Shade Matching - UV, U-30, TL, D-65, Incandescent A.
- Introduction to Basic Flow Chart of Cotton from Fibre to Fabric.
- Study of Various Kinds of Stains on Textile and their Removal.

**TEXTILE TESTING SCIENCE**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various textiles fibres by physical burning.
- Identification of various textiles fibres by microscope.
- Identification of various textiles fibres by chemical solubility methods.
- Methods of washing, bleaching, starching, drying and ironing of various fabrics.
- Colour fastness test for showing effect of heat, sunlight, gas fumes, perspiration, humidity,



washing, crocking and ironing on coloured natural fabrics.

- Identification of various types of vegetable, animal, chemical and mineral stains and their removal.
- Colour fastness test for showing effect of rubbing and chemicals on coloured natural fabric.

## TRADE : TEXTILE DESIGNING

### 11<sup>th</sup> VOCATIONAL

#### PAPER-II

#### TEXTILE DESIGNING AND PRINTING - I

#### THEORY

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Origin, Historical Background and Characteristics of Traditional Indian Designs with Special References to Punjab.
- Sources of Inspirational Designs: Nature, Abstract, Geometrical and Mythology.
- Design: Definition, Classification (Structural and Applied), Principles and Elements.
- Colours: Light and Pigment theory of Colours, Colour Wheel, Primary, Secondary and Tertiary Colours, Colour Schemes and Qualities of Colour.
- Introduction to Textile Printing Materials used for Printing, Its Importance.
- Various Methods of Printing: Introduction to various methods of printing, Block Printing, Roller Printing, Screen Printing, Spray Printing/Stencil Printing and Transfer Printing.
- Elementary Study of Thickening Agents and Auxiliaries.
- Block Printing of Cotton Fabric with Aniline Black.
- Direct Method of Printing on Silk with Basic Dye.
- Introduction to Sublimation Printing.
- Pre treatments of Printed Fabrics.
- After treatment of Printed Fabrics
- Introduction to Printing paste and various ingredients used in it.

**TEXTILE DESIGNING AND PRINTING - I**  
**PRACTICAL**

**Time: 3 hrs**

**Marks : 50**

- Practice of mixing colours showing colour on colour wheel with varied values and hues showing various colour combinations.
- Preparing file with different designs suitable for textiles using soft pencil, crayon, pencil colours, sketch pens, coloured ink or watercolour.
- Preparing paper stencils for printing.
- Making of stencil design for saree border, handkerchief and pillow cover.
- Practice of painting with fabric colours on textiles.
- Practice of printing sulphur dye on cotton cloth with hand block.
- Making preparation of grey scale.
- Visit to museums, art galleries, craft melas and report writing of the craft appraisal.

## **TRADE : TEXTILE DESIGNING**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-III**

#### **TEXTILE DYEING - I**

##### **THEORY**

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Brief Study of pH Value.
- Precautions to be Observed While Scouring, Bleaching and Dyeing.
- Scouring of Cotton and Wool, Polyester Fibres and Fabric.
- Bleaching of Cotton and Wool, Polyester Fibres and Fabric.
- Direct Dyes: Names, Identifications, Properties and Applications of on Cotton and after Treatment with Synthetic Fixing Agents.
- Properties, Names and Applications of Reactive Dyes, Vat Dyes.
- Estimation of Weight of Dyes for Laboratory Purpose.
- Determination of Chemical used for Dyeing Purpose in Laboratory.
- Dyeing of Wool Silk, Nylon with Acid Dyes and Metal Complex Dyes on Wool.
- A Brief Study of Long Bath, Short Bath, Neutral Bath, Standing Bath, Stripping, Leveling, Micro-Controller and Sample Pot for Dyeing Machine.
- Applications of Reactive, Vat, Dyes on Cotton and Viscose.
- Application of Sulphur Dyes on Cotton.
- Application of Direct Dyes on Viscose.
- Dyeing of Nylon with Direct Dyes.

##### **TEXTILE DYEING - I**

**Time: 3 hrs**

##### **PRACTICAL**

**Marks : 50**

- Practice of scouring and bleaching of cotton and wool.
- Practice of dyeing of cotton and jute with direct dye.
- Effect of time, temperature, water ratio and chemicals in dyeing.
- Practice of dyeing of cotton with reactive vat dyes.
- Practice of dyeing of woolen yarn/fabric with acid dyes, metal complex (Nealon) dyes.
- Practice of dyeing of cotton with ramazole dyes.
- Practice of dyeing of cotton with sulphur dyes.
- Practice of dyeing of cotton with direct dyes.
- Make an article using any one class of dye.

## **(iv) TRADE : TEXTILE WEAVING**

**11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**TEXTILE FIBER SCIENCE**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Fibres - Introduction to Textiles Fibres, Classification and Description of Various Textile Fibres - Natural, Manmade and Synthetic.
- Identification of Textile Fibers by Microscopic, Chemical and Burning Test.
- Object of Ginning, its Importance and Need.
- Yarn - Types of Yarns - Simple, Novelty and Textured Yarns.
- Weaves - Introduction to Different Types of Weaves - Plain, Twill, Satin and Sateen.
- Different Varieties of Cotton and Wool, Grading of Cotton and Wool.
- Process and Flow Chart of Cotton and Woolen Finished Fibre.
- Finishes - Purpose, Types & Understanding the Effect of Some Common Finishes Used In Textile Industry Like Mercerisation, Sanforisation, Sizing, Crease Resistance, Calendering, Tenting and Embossing.
- Study of Various Kinds of Stains on Textile and Their Removal.
- Introduction to Different Types of Yarn Packages Like Hank, Bobbin, Cheese and Cone.

## TEXTILE FIBER SCIENCE

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various textiles fibres by burning and microscopic method.
- Identification of various textiles fibres by chemical solubility method.
- Methods of washing, drying and ironing of various fabrics.
- Colour fastness test to heat, sunlight, gas fumes, perspiration, humidity, washing, crocking and Ironing on coloured natural fabrics.
- Identification of various types of vegetable, animal, chemical and mineral stains and their removal.
- Practice of winding - hank, bobbin and cone winding.
- Draw flow chart of cotton Fibre to Fabric processing.
- Draw flow chart of Wool fibre to fabric processing.
- Draw flow chart of polyester fiber to Fabric processing.
- 3D presentation of cotton fibre to fabric.

# TRADE : TEXTILE WEAVING

## 11<sup>th</sup> VOCATIONAL

PAPER-II

YARN PREPARATION AND FABRIC STRUCTURE

### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

- Spinning & its Types - A) Mechanical - Spinning of Cotton, Wool and Worsted, B) Chemical - Melt, Dry & Wet Spinning.
- Terminology Related to Fabrication - Fabric, Warp, Weft, Weave, Repeat Pattern, Design, Draft Plan, Peg Plan, Texture Motif and Picks.
- Definition of Selvedge, Types of Selvedge and its Importance in Cloths, Importance of Monogram in Selvedge.
- Introduction to Yarn Preparation, Winding, Warping - 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.
- Aims, Objective and Scope of Weaving.
- Use and Importance of Graph Paper for Different types of Weaves.
- Classification of Weaves - Elementary, Compound and Complex.
- Introduction to the Following Weaves Along With Their Draft Plan and Peg Plan : Plain Weave - Rib and Basket, Twill Weave - Regular, Pointed Honey Comb, Satin, Sateen, Pile Weave - Cut and Uncut.
- Introduction of Different Types of Fabrics Such as Suiting, Shirting, Dress Material, Blankets, Bed Sheet, Mulmul, Poplin, Cheese Cloths, Jean, Voil.
- Introduction to Computer Aided Weaving Design.

## **YARN PREPARATION AND FABRIC STRUCTURE**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Warp and Weft winding, Pirn winding, Bobbin winding and cone winding.
- Plain Weave - Preparation of warp, drafting, denting and drawing.
- Basket Weave - Preparation of warp, drafting, denting and drawing.
- Regular twill Weave - Preparation of warp, drafting, denting and drawing.
- Herringbone Twill - Preparation of warp, drafting, denting and drawing.
- Pile Weave - Preparation of warp, drafting, denting and drawing.
- Simple exercise on different types of knotting.
- Introduction in Computer Aided Weaving.
- Make a scrap file of different pattern of selvages.
- Prepare sample of plain and matte weave.



# TRADE : TEXTILE WEAVING

## 11<sup>th</sup> VOCATIONAL

PAPER-III

HANDLOOM MECHANICS AND OPERATIONS

### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

- History of Weaving & its Importance in Textile Craft.
- Types and Parts of Warping Machine-Creel Stand, Back Reed, Warp Reed, Guide Roller, Warping Drum, Warping Beam and Drawing Hooks and their Functioning.
- Types of Reed and Heald Wires.
- Types and Parts of Handlooms and Their Functioning, Harnessing of Handloom.
- Process of Handloom Fitting.
- Motions of the Handloom: Primary Motions - Shedding, Picking & Beating up, Secondary Motions - Taking up & Letting off.
- Checking of Handloom Before Operation and General Precautions.
- Different Methods of Drafting & Denting In Preparatory Process
- Types and Parts of Shuttle.
- Working of Dobby for Handloom.
- Working of Jacquard for Handloom.

## HANDLOOM MECHANICS AND OPERATIONS

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Winding of bobbins.
- Arrangement of bobbins in creel.
- Passing of threads through the back reed.
- Pirn winding and inserting.
- Fitting of handloom and maintenance.
- Harnessing of Handloom.
- Weaving of cloth - plain weave, Basket weave, twill weave and terry pile weave.
- Visit a handloom industry and make a report on working of different parts/ sections of industry.

### **(v)TRADE : KNITTING**

#### **11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**TEXTILE FIBRE AND TESTING**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Fibres**

Introduction to Textiles Fibres, Classification and Description of Various Textile Fibres (Natural, Manmade and Synthetic), Physical and Chemical Properties of textile fibre, Identification of fibre using Physical and Chemical Methods.

#### **Yarn**

Types of Yarns, properties of Yarn for knitted Fabric Manufacturing.

#### **Knitting-**

Classification of Knitting, Product and its uses.

#### **Dyes**

Introduction, Classification – Natural and Synthetics Dyes, Direct, Acidic, Basic, Sulphur, Reactive, Disperse, Dyes and Pigment Colors, Applications of Dyes on Cotton, Wool, Silk,

Acrylic and Polyester Yarn.

### **Finishes**

Purpose, Types and Understanding the Effect of Some Common Finishes used in Textile Industry like Mercerisation, Sanforisation, Sizing, Crease Resistance, Calendering, Embossing, Dimensional Characteristics, Sentering. Open width or Tubular Compaction.

### **Stains**

Study of Various Kinds of Stains on Textile and their Removal.

### **Quality Control**

Introduction, Inspection of Yarn Fabric and Garment and Quality Control Procedure.

### **Colour theory**

Primary, Secondary and Tertiary colours.

## **TEXTILE FIBRE AND TESTING**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various textiles fibres by Physical (Burning and Microscopic) and Chemical (Solubility) methods.
- Methods of Washing, Bleaching, Starching, Drying and Ironing of various fabrics.
- Color fastness test to Sunlight, Perspiration, Washing, Crocking and Ironing on coloured natural fabrics.
- Identification of various types of stains and their removal.
  
- Identification of 'S' and 'Z' twist in yarn.
  
- Identification of Knitting fabric from samples.
  
- Quality control of the produced garments measurements, weight, minor and major inspection.

## **TRADE : KNITTING**

### **11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**HAND FLAT KNITTING MECHANISM**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90 Marks**

- Introduction of Knitting Industry.
- Classification of Weft Knitted Fabric- Single Faced, Rib, Purl, Interlock, Intarsia and pique Fabric.
- Different Parts of Flat Knitting Machine and their Functions.
- Basic Terminology Used in Knitting Such as Gauge, Wales, Course, Knitted Stitch, Needle Loop, Sinker Loop Etc.
- Diagrammatic Presentation of Latch Needle, Understanding Its Different Parts and their Functions.
- Diagrammatic Presentation of Loop Formation of Latch Needle.
- Diagrammatic Presentation of Weft Knitted Stitches Such As Plain, Rib, Tuck and Purl Stitch.
- Diagrammatic Presentation of Cam System of V Bed Hand Flat Knitting Machine.
- Operations and Function of Different Cams of V Bed Hand Flat Knitting Machine.
- Setting of Stitch Length on A Hand Flat Knitting Machine.
- Knitting Process of Welts and Function of Welts.
- Knitting Process of 1 X 1 Rib and Plain Fabric.
- Producing 1x1 and 2x2 Rib (Border) on Simple Flat Knitting Machine.
- Knitting Defects, their Causes and Remedies on Hand Flat Knitting Machine.

### **HAND FLAT KNITTING MECHANISM**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Maintenance of Hand Flat Knitting Machine. Oiling and cleaning of knitting machine, Replacement of faulty parts.
- Adjustment of brushes, method of feeding yarn and setting of feeders on Flat Knitting Machine. Yarn passage in terms of tensions, feeder carriage etc.
- Description and diagrams of Cam set, different parts of Cam set and their functions. Setting of Stitch Quality or Stitch Length on Flat Knitting Machine. Adjustment to adjust stitch length.
- Identification and functioning of different parts of Hand Flat Knitting Machine.
- Method of putting and replacing of Needles, adjustments of needles.
- Jobbing On and Running On operation on Flat Knitting Machine.
- Knitting of plain fabric on Flat Knitting Machine.
- Knitting of 1 x 1 and 2 x 2 rib on Flat knitting Machine.
- Transferring of loops from one needle bed to another needle bed with the help of Decca and knitting of single bed fabric.
- Knitting of Decca design and Tuck design.
- Knitting of Half cardigan and Full cardigan fabric.
- Knitting of Half Milano and Full Milano fabric.
- Visit to reputed knitting industry/knitting technology institutes-craft fairs and report writing for the same.

- Setting of Stitch Quality or Stitch Length on Flat Knitting Machine.
- Knitting of 1 x 1 and 2 x 2 rib on Flat Knitting Machine.
- Transferring of loops from one needle bed to another needle bed with the help of Decca and knitting of single bed fabric.
- Knitting of Decca design and Tuck design.
- Knitting of Half cardigan and Full cardigan fabric.
- Knitting of Half Milano and Full Milano fabric.
- Maintenance of Hand Flat Knitting Machine.
- Visit to reputed knitting industry/knitting technology institutes-craft fairs and report writing for the same.

## **TRADE : KNITTING**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-III**

#### **HAND DRIVEN CIRCULAR KNITTING**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

- Classification of Knitting Industry
  - Socks Knitting Industry
  - Under Garments Knitting Industry
  - Outerwear Garments Knitting Industry.
- Socks Knitting Machine its Different Parts and their Uses.
- Cylinder Cam Set of Hand Driven Socks Machine, Explanation of Its Different Parts and their Functions with Diagram.
- Dial Cam Set of Hand Driven Socks Machine, Explanation of its Different Parts and their Functions with Diagram.
- Looping Elements-Needle, Sinker.
- Jobbing on, Running on Operation of Circular Knitting.
- Diagrammatic Presentation of Loop Formation of Latch Needle on Circular Knitting Machine.
- Showing Diagrammatically Different Parts of Socks (Welt, Rib Top, Leg Part, Heel Part, Foot Part and Toe Part).
- Method of Formation of Welt on Hand Socks Knitting Machine.
- Method of Knitting Rib with the Use of Dial.
- Method of Knitting Heel and Toe.
- Method of Making Complete Socks A with Elastic Rib Top and 1x1 Rib Top.
- Toe Closing (I) Linking (II) Over Locking.
- Defects That Occur During Circular Knitting and their Causes and Remedies.

- Different Types of Articles can be Produced on Hand Driven Knitting Machine Such as Mitins, Socks, Stockings, Gloves Etc.
- Power Socks Machine Parts and its Functioning.

## HAND DRIVEN CIRCULAR KNITTING

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Identification of various parts of socks machine.
- Tools and accessories used in circular knitting machines and their uses.
- Identification and function of cylinder cams.
- Identification and functions of dial-cams.
- Disassembling and assembling of the cam system of socks machine.
- Raising and Lowering of dial and time setting.
- How to adjust the stitch length and yarn guide of the machine.
- Method of starting machine with jobbing on method and running on method.
- Knitting of welt and 1 x 1 rib.
- Method of knitting heel and toe
- Knitting of full socks.
- Knitting of stockings.
- Method of linking of toe portion.
- Method of Pressing, Labeling, Folding and packing of finished product.
  - Size chart of socks.

## IV ENGINEERING & TECHNOLOGY GROUP

(i) TRADE :

ELECTRICAL 11<sup>th</sup>

VOCATIONAL

PAPER-I

BASIC

ELECTRICITY

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total :

90Marks

### Introduction

Electricity and its Types, Definition & Units of Resistance, Voltage, Current, Power, Energy, Resistor, Rheostat and Potential Divider, Resistance and its types and Colour Coding, Factors affecting Resistance of a Conductor, Temperature Coefficient of Resistance, Difference Between AC and DC Voltage, Advantages of Electric Energy over other types of Energy.

### 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 and Calculation of Equivalent Resistance. Kirchhoff's Laws and its Applications.

### Batteries

Primary Cell, Dry Cell, Battery, Series and Parallel Connection of Cells, Secondary Cells, Lead Acid Cell, Discharging and Recharging of Battery, Common Charging Methods- constant current method and constant voltage method, Care and Maintenance of Secondary Battery, Specifications of a Cell Battery, Silver Oxide Batteries and Lithium Polymer battery.

### 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.

### Electromagnetic Effects

Permanent Magnets and Electromagnets, Their Construction and use, Properties of an Electromagnet and Rules for Finding them, Faraday's Laws Of electromagnetic Induction and Applications, Dynamically Induced E.M.F - Magnitude and Direction, Static

E.M.F. - Magnitude and Direction, Static Induction, Self Induced M.F. - Magnitude and Direction, Inductance and its Unit, Mutually Induced E.M.F. - Magnitude and Direction.

### A.C. Circuits

Principles of Generation of A.C. Voltage and Wave Shape Cycle, Frequency, Peak Value, Average Value, Instantaneous Value, R.M.S. Value, Introduction to Resistance, Capacitance and Inductance, Inductive Reactive and Capacitive Reactance, Phase Difference, Power Factor - Leading and Lagging, Impedance, Poly phase and Generation of 3 Phase - Delta and Star Connections.

### Measuring Instruments

Working Principles of Moving Iron and Moving Coil Voltmeters and Ammeters, Range Extending of Ammeter, Voltmeter, Megger and Induction Type Energy meter, their Circuit



Connection and Application for Measurement of Electrical Quality, Multimeters and its Types.

### **Earthing**

Need of Earthing, Types of Earthing - Plate Earthing, and Pipe Earthing, Procedure and Application.

### **Solar Electricity**

Need of Solar Energy, Solar Photovoltaic (SPV) Technology, Advantages of SPV System, Solar Constant, Formation of Solar Cells, SPV Module, Array and Applications of Solar Photovoltaic System.

## **BASIC ELECTRICITY**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Measurement of current, voltage and resistance with the help of multimeter.
- Verification of Ohm's Law.
- Measurement of equivalent resistance of series combination of resistors.
- Measurement of equivalent resistance of parallel combination of resistors.
- Measurement of equivalent resistance of series-parallel components of resistors.
- To verify Kirchhoff's current laws (KCL).
- To verify Kirchhoff's voltage laws (KVL).
- Charging a lead acid battery and to test its state of charge.
- Study of series and parallel capacitor circuits.
- Study of series and parallel resistor circuits/lamps.
- Connections of Ammeter, Voltmeter and Wattmeter in an A.C. circuit of resistive load.
- To test a single phase energy meter with the help of standard wattmeter and stop watch with resistive load.
- Controlling low voltage lamps in series.
- Controlling lamps from two or three places.
- Drawing schematic diagram of single phase supply to consumers.
- Drawing schematic diagram of three phase supply to consumers.
- Practice on CTS/TRS (Batten) wiring with 2 fans, 4 lamps, 2 tubes and 4 plug points.
- Practice on conduit wiring.
- Polarity (means phase and neutral testing) test of wiring installation.
- Measurement of insulation resistance of wiring installation by megger.
- Testing of wiring installations with the help of megger.
- Installation of pipe earthing for wiring installation.
- Study of plate earthing for wiring installation.

- Testing faults of wiring installation and rectification.
- Installation of a sub-meter between a given electrical wiring.
- Measurement of open circuit voltage and short circuit current of a PV Module.
- To study /install a Solar Street Light System.

**TRADE : ELECTRICAL**

**11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**ELECTRICAL DOMESTIC APPLIANCES**

**- I THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total :**

**90Marks**

**Introduction**

Introduction to Phase, Neutral, Earth, Voltage between Phase and Neutral, Phase and Earth Common Faults – (i) Open Circuit, (ii) Short Circuit (iii) Earth Fault, Series Testing Board and its Uses.

**Electric Room Heater**

Construction and Working Principle of Reflector type Room Heater, Common Defects, Testing and Repairs.

**Electric Iron**

Types - Ordinary type and Automatic/ Thermostat Control type, Steam Iron, Constructions and Working Principles of Electric Irons, Common Defects, Testing and Repairs.

**Electric Stove**

Types - Coiled Types, Oven, Construction and Working Principles of Electric Stoves, Induction Plates - Merits and Demerits, Common Defects, Testing and Repairs.

**Electric Toaster**

Types - Ordinary and Automatic, Construction and Working Principles, Common Defects, Testing and Repairs.

**Immersion Heater and Geyser**

Construction, Working Principle, use of Immersion Heater, Common Faults and Causes, Testing and Repairs, Construction, Working Principles and use of Geyser, Common Defects and Causes, Testing and Repairs, Testing and Installation of Geyser, Precautions in using Immersion Heater and Geyser.

**Electric Kettle**

Construction, Working Principle and use of Electric Kettle, Common Faults and Causes.

**Illumination**

Joul's Laws of Electric Heating and its Domestic Applications, Heating Efficiency, Lighting Effect of Electric Current, Constructions, Working Principles and uses of Table Lamp, Night Lamp and Tube Light, Common Faults and Causes, Testing and Repair, Study of CFL and LED – Construction working principle, fault and causes, testing and repair.

**Electric Bell, Buzzer and Door Chimes**

Constructions, Working Principles and uses of Electric Bell, Buzzer and Door Chimes,

Common Faults and Causes, Testing and Repair.

## ELECTRICAL DOMESTIC APPLIANCES - I

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Fabrication of a control panel board with meters and series test lamp for testing of electrical appliances.
- Fabrication of a mains lead with three pin plug and iron connector.
- Dismantling and reassembling of reflector type room heater.
- Testing and repairing of reflector type room heater.
- Dismantling and reassembling of electric iron - ordinary type, automatic/ thermostat control type.
- Testing and repairing of electric iron - ordinary type, automatic/ thermostat control type.
- Dismantling and reassembling of electric stove - coiled type, oven.
- Testing and repairing of electric stove - coiled type, oven.
- Dismantling and reassembling of electric toaster – ordinary, automatic.
- Testing and repairing of electric toaster – ordinary, automatic.
- Dismantling and reassembling of geyser.
- Testing and repairing of geyser.
- Dismantling and reassembling of electric kettle.
- Testing and repairing of electric kettle.
- Connections of a fluorescent tube.
- Testing and repairing of (i) table lamp (ii) night lamp (iii) tube light (iv) CFL
- Testing and repairing of (i) electric bell (ii) buzzer (iii) door chimes.
- Fabrication of an extension cord for three plug points with independent controls.
- Dismantling and reassembling of induction plate.
- Construct and test decorative running LED lamp assembly

**TRADE : ELECTRICAL**

**11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**MATERIALS AND WORKSHOP PRACTICE - I**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total :**

**90Marks**

**Safety Precautions and Shock Treatment**

Familiarize 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 of Electric Shock and Burns as per IEI Rules.

**Common Tools**

Familiarize the Students with Common Tools, Safe use of Tools, their Specification and Applications.

**Conducting Materials**

Copper and Aluminum as Low Resistivity Materials, their Electrical Characteristics and Applications, Electric Resistance Materials, Materials for Lamp Filaments and Brushes. Tungsten, Ni-chrome, Selenium and Carbon as High Resistivity Materials, their Electrical Characteristics and Applications.

**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, Fiber Glass - uses and Applications, Insulating Tapes, Sleeves, Insulating and Impregnating Varnishes and Paints- uses and Applications.

**Magnetic Materials**

Classification, Properties and uses of Materials - Ferromagnetic Materials, Soft and Hard Magnetic Material, Mild Steel, Silicon Steel, Mu-Metal, Permalloy, Alnico as Magnetic Materials.

**Structure Materials**

Iron Steel, Brass, Gun Metal and Aluminum as Structural Materials, their Properties and Applications.

### **Fuse and Soldering Materials**

Silver, Copper, Lead, Tin and Alloys as Fuse Material, their Properties and Applications, Soldering & Brazing Materials and Tools, Procedure of Soldering & Brazing, Precautionary Measures.

### **Wiring Materials**

Types of Wiring - Introduction to Conduit Wiring, Procedure Systems, Factors for Selection Of a Particular Wiring System, Importance of Switch, Fuse, Change Over Switch and Earthing of Wiring System, Types of Faults, 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 Sub-meters and their Installation in Inverter Wiring. ICTP and ICDP Main Switches, Distribution Boards, Bus Bar, Conduit Fittings and Pipes, Board, Switches Lamp Holders, Ceiling Roses, Plugs, Sockets, Wires, etc. used for Different Wiring.

### **Lubricants**

Solid, Semi - Solid and Liquid Lubricants, Uses and Applications.

### **Corrosion Protective Paints**

Application of Paint for Corrosion Protection and Precautions in Painting.

### **Electrical Symbols**

Electrical Symbols and Blue Print Reading, Simple Domestic Electric Circuit Drawing.

### **Bimetallic Relays**

Construction and Application of Bimetallic Relays and Thermo-Couple for Control of Temperature and Current.

### **MCB**

Introduction To Miniature Circuit Breaker (MCB), MCB DP and Earth Leakage Circuit Breaker (ELCB), Specifications and Their use in Electrical Circuits.



## MATERIALS AND WORKSHOP PRACTICE - I

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- First aid box practice.
- Identification of common tools.
- To form two identical coils using insulated Copper wire and Aluminum wire of same gauge and same number of turns and compare their resistance.
- To make coils of Nichrome and Eureka wires of equal lengths and gauge and measure resistance, current and power at a given voltage.
- Identification of different insulating materials.
- Practice on insulating - slots, cores of motors.
- Insulating the coil winding with varnish.
- Replacing a blown fuse of standard current rating.
- Study the relationship between wire diameter and fusing current for instantaneous fusing.
- Soldering practice.
- Lubricating technique practice.
- Study of thermo coupled oven to control temperature.
- Application of bimetallic relay to control temperature.
- Use of MCB, MCB DP in an electrical circuit.
- Use of an ELCB in on electrical circuit.

## **(ii)TRADE :ELECTRONICS**

### **11<sup>th</sup> VOCATIONAL**

#### **PAPER-I**

#### **BASIC ELECTRONICS**

#### **THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **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. Charging & discharging of cell. Resistors, Capacitors Inductor and their types. Component ratings and color order of Resistors and Capacitor, Relationship between voltage and current. Ohm's law, Kirchhoff's Laws and their applications. Faraday's law. Magnetism, Definitions of Electromagnetization electromagnetic induction, flux, permeability. Transformers; concept working principle and application.

#### **Circuits**

Series and Parallel combination of Resistors. Series and Parallel combination of Capacitors. Series, parallel combination circuits of resistors, capacitors and inductors, RC, RLC, LC circuits and their applications.

#### **Tools**

Common Tools used in Servicing and Maintenance in Electronic Shop, Various Types of Soldering Iron proper use and maintenance, Desoldering Tools.

#### **Printed Circuit Board**

PCB, Different Types of PCB-Single side PCB, Multipurpose PCB.

#### **Meter**

Meter, Types of Meters-Deflection Meter, Recording Meter, Indicating Meter, Principle, Uses and Applications of Voltmeter, Ammeter and Multimeter.

## **BASIC ELECTRONICS**

**Time : 3 hrs**

### **PRACTICAL**

**Marks : 50**

- Drawing of Electronic/Electrical Symbols.
- Freehand sketching of Electronic Components.
- Colour coding of resistors.
- Study and use of series and parallel Circuit of resistance.
- Study and use of series and parallel Circuit of Capacitor.
- Verification of Ohm's Law (Relationship between Voltage and Current).
- Verification of Kirchhoff's Laws.
- Verification of Faraday's Laws.
- Study of series and parallel Resonant circuits.
- Make series & parallel connection of batteries
- Study of series and parallel Resonant circuits.
- To check a transformer for primary and secondary voltages.
- Fabrication of an extension board for Power supply and use of Line Tester.

# TRADE :ELECTRONICS

## 11<sup>th</sup> VOCATIONAL

### PAPER-II

### ELECTRONICS CIRCUITS

#### THEORY

**Time : 2 hrs**

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

#### **Semiconductor Physics**

Atomic Structure, Conductors, Insulators, Semiconductors, P and N Type Materials, Their Principles and Properties, Diode and its working, Transistors, Working of Transistor, Zener Diode Symbols, Functioning and their properties.

#### **Rectifiers and Filters :**

Rectifier, Half Wave, Full Wave and Bridge Types and their Working, Filters, Capacitors as a filters, Shunt capacitor filter, Series Inductor filter, T AND PIE Filter concept and working. Power Supply Regulators, Zener Regulation, Series and Shunt Regulator, Voltage Double and Triple circuits.

#### **Transistor as a Amplifiers :**

Transistor Biasing, Selection of operating point, Cut off Region, Active Region, Saturation Region, Transistor Configurations, Common Base Configuration, Common Emitter Configuration, Common Collector Configuration, Audio Amplifier, RF Amplifier

#### **Transistor as an Oscillator :**

Feedback, Positive Feedback, Negative Feedback, Sinusoidal Oscillator, Damped Oscillations, Undamped Oscillations, Oscillatory Tank Circuit, Positive feedback Amplifier as an Oscillator.

## **ELECTRONICS CIRCUITS**

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Testing of Diode, Transistor and Zener Diode with the help of a Multimeter.
- Graded exercises on soldering practice viz. tinned wire, PCB, lugs, connectors etc.
- Fabrication of 3/6/9 volt simple DC power supply using half wave rectifiers. [Battery Eliminator]
- Fabrication of 3/6/9 volt simple DC power supply using Centre Tapped Full wave rectifiers. [Battery Eliminator]
- Fabrication of 3/6/9 volt simple DC power supply using Full wave Bridge rectifiers. [Battery Eliminator]
- Fabrication of T and PIE Filter.
- Fabrication of a zener regulated DC Power supply.
- Fabrication of DC stabilized supply using series and shunt pass transistors.
- Study the Voltage Double and Triple Circuits.
- Demonstration and study of Audio Frequency Amplifiers.
- Demonstration and study of Radio Frequency Amplifiers.
- Study the Oscillatory Tank Circuit.

# TRADE : ELECTRONICS

## 11<sup>th</sup> VOCATIONAL

PAPER-III

AM/FM RADIO RECEIVER AND FAULT ANALYSIS

### THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90Marks

### Communication

Basic concepts of Communication, Modulation, Need of Modulation, Types of Modulation, AM Modulation, FM Modulation, Transistor AM Modulator, Limitations of AM Modulation, Advantages and Disadvantages of FM Modulation, Block Diagram of Amplitude Modulated Transmitter, Block Diagram of Frequency Modulated Transmitter, Demodulation or Detection, Requirements of Demodulation, Diode Detector, Different modes of wave propagation.

#### AM Radio Receivers

Basic principles and block diagram of AM receivers and Stages. Sensitivity, Selectivity, Fidelity, Heterodyning,

#### FM RadioReceiver

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

#### Fault Analysis of Radio Receiver

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.

AM/FM RADIO RECEIVER AND FAULT ANALYSIS

**Time : 3 hrs**

**PRACTICAL**

**Marks : 50**

- Study the Basic Concept of Communication system.
- Draw and Explain Block diagram of AM Radio Receiver.
- Draw and Explain Block diagram of FM Radio Receiver.
- Study the Amplitude Modulation with wave diagram.
- Study the Frequency Modulation with wave diagram.
- Draw and Explain Demodulator circuit
- Assembling a medium wave transistor/radio receiver.
- Measuring voltages at different test points of a transistor/radio receiver.
- Check waveforms at input and output parts of different stages with the help of CRO.
- Alignment of IF stages.
- Alignment of RF stages.
- Fault finding in Mechanical fixtures viz. Dial Cord, Volume control, loud speaker etc.
- Tracing the circuit of a given transistor/radio receiver

**(iii) TRADE : ARCHITECTURE**

**11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**ENGINEERING**

**DRAWING - I**

**THEORY**

**Time : 2hrs**

**Theory : 30Marks**

**CCE : 10**

**Marks Practical : 50**

**Marks Total : :**

**90Marks**

**Introduction**

Introduction and Scope of Civil Engineering/Architectural Drawing, Instruments and Material used in Engineering Drawing - Drawing Board, Drawing Sheet, Tee Square, Set Square, Parallel Bar, Protector, Scale, Rubber, French Curve, Drawing Pencil, Drawing Instrument Box, Sand Paper, Drawing Pin/ Clips, Duster, Drawing Ink etc, Drawing Machine (Mini Drafter) and its Uses, Precautions in use of Drawing Instruments.

## Planning and Layout of Drawings

Need for Planning of Drawing Sheet, Standard Sizes, Margins, Size and Purpose of Title Blocks, Maintenance of Drawing Sheet, Format (With Title, Subject Name, Scale, Orientation etc.)

### Free Hand Sketching.

2D Shapes, 3D Shapes, Different Types of Lines, Landscapes/ Building Views.

## Lines, Lettering and Dimensions

Point and Lines (Introduction), What is Line, Types of Line, Lines Used in Engineering, Line Weights, Drawing, Lettering (Introduction), Types of Letter - Single Stroke, Double Stroke, Roman Letter, Free Hand Letter, Dimensioning - Types of Dimension, Important Dimensioning Rule, Need, Principles and Different Systems of Dimensioning, Arrangement of Dimensions.

### Geometrical Construction:

Procedure of Drawing Plane Geometrical Figures - Triangle, Square, Parallelogram, Rhombus, Hexagon, Pentagon, Kite, Circle and Regular Polygon, Angles (Acute Angle, Right Angle, Obtuse Angle), Bisection and Trisection of Angle.

### Projections of Solids

Description of Solids - Cube, Prism, Pyramids, Tetrahedron, Cones and Cylinders.

### Section of Solids

Need for Sectioning, Sectional Views when Solids Rest on Base, Procedure of Drawing Sectional Solids - Cube, Prism, Pyramid, Cylinder, Cone.

## Symbols and Conventions

Necessity of Symbols & Conventions, Hatching, Conventions for Symbols Related to Building Construction - Bricks Work, R.C.C., Stone, Wood, Earth, Rock, Plaster, Glass, Fiber

Board, Doors, Windows, Fencing, Building, Symbol Related to Water Supply and Sanitation - Water, Urinal, Bath Tub, Indian Type WC, Kitchen Sink, Rain Water Outlet, Water Meter, Dam, River, Canal, Man Hole, Pump, Symbol Related to Road and Railway - Railway Line Single, Railway Line Double, Road Over Railway, Road under Railway, Metalled Road, Non Metalled Road, Electric Line, Bridge, District Boundary, State and International Boundary, Other Important Symbol - Building, Grass, Temple/ Church, City/ Town, Tree, Lake, Well.



## 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.

## ENGINEERING DRAWING - I

**Time:3hrs**

**PRACTICAL**

**Marks :50**

- Draw the diagram of different instruments used in engineering drawing.
- Layout of the drawing sheet with proper margin and with title block.
- Draw the drawing sheet of different types/ methods of dimensioning.
- Draw the drawing sheet of different types of engineering lines used in engineering drawing.
- Draw the drawing sheet about the different technique of Letter writing (Free hand and with scale).
- Draw the drawing sheet of different degree of angles.
- Draw the drawing sheet of Bisection and Trisection of different degree angles.
- Draw the drawing sheet of plane geometrical figures like triangle, square, parallelogram, Hexagon, Pentagon, Kite, Circle and regular Polygon.
- Draw the drawing sheet of solids like cube, prism, pyramids, tetrahedron, cones and cylinders.
- Draw the drawing sheet of different civil engineering symbols.
- Draw the drawing sheet about the Development of the surface of cube, prism, pyramid, cone, and cylinder.

**TRADE : ARCHITECTURE**

**11<sup>th</sup>VOCATIONAL**

**PAPER-II**

**WORKSHOP**

**PRACTICE - I**

**THEORY**

**Time :2hrs**

**Theory : 30Marks**

**CCE : 10**

**Marks Practical : 50**

**Marks Total :  
90Marks**

**Units of Measurement and Calculation:**

Definition of Plane and Solid Figures - Triangle, Square Quadrant, Circle, Cube, Cylinder, Cone, Pyramid, Prism and their Application, Calculation of Weight of Various Products of Related Cost, Unit of Weight Length, Time and Temperature, M.K.S., E.P.S and S.I Units and their Conversion.

## Simple Machines

Introduction, Principle of Working, Advantage, Types - Lever, Pulley, Pulley & Wheel, Screw Jack, Calculation of Mechanical Advantage, Velocity Ratio and Efficiency of Simple Machines.

## Handling of Basic Masonry Tools

Introduction, Uses, List of Important Tools - Trowel, Plumb Bob, Spirit Level, Square, Line and Pin, Brick Hammer, Pick Axe, Chisel, Spade, Wooden Float, Metal Float, Racking Needle, Scratcher, Pointing Tool, Mortar Pan, Curing Pipe, Threads, Precautions for using and Storing Different Tools.

## Riveted and Welding Joint

Introduction, Types of Rivet, Types of Riveted Joint - Lap and Butt Joint according to IS Code, Advantages and Disadvantages of Riveted Joint, Introduction of Welding, Types of Welding - Electric Arc Welding and Gas Welding, Advantage and Disadvantage of Welding.

### **Walls and Pillars**

Partition Wall/ Boundary Wall, Load Bearing Wall - One Brick, One and a Half Brick and two Bricks, Pillars - One Brick and one and a Half Brick.

## Structure of Building

Coping, Parapet, Drip Course Line Gola, Terrace, Cornice, Slab, R.C.C. Lintel, R.C.C. Chhajja, Plinth Level, Plinth Course, Plinth Protection, D.P.C., Footing, Trench Plan, Offset, Foundation, Basement, Ground floor, 1st Floor, 2nd Floor.

### Layout of Building

Introduction, Tool and Material Required, Procedure, Precautions In Layout of Building, Usage of Scale in Preparation of Layout.

## WORKSHOP PRACTICE - I

**Time:3hrs**

**PRACTICAL**

**Marks :50**

- Calculate the area and volume of triangle, circle. Square, cube, cylinder, quadrant and prism.
- Calculate the mechanical advantage, velocity ratio and efficiency of simple machines.
- Identify the different masonry tool at construction site / school workshop.
- Draw the diagram of different masonry tools used in construction works.
- Note down the prices of each masonry tool used in construction works.
- Draw different types of rivets used in riveting.
- Draw the different types of riveted joints - lap joint and butt joint.
- Draw the symbols of different welding joints.
- Draw the diagram of different size of pillars.
- Draw the diagram of section of wall to show the different elements of building - Base of foundation, ground level, Plinth Level, Plinth Protection, D.P.C., Sill Level, Lintel Level, Slab/ Beam, Parapet , Coping, PCC Gola, Plaster, Tile Terracing.
- Measure and note down in tabular form the different items of single room with steel tape.
- Mark the layout of foundation of the one/two room building.
- Model Making of Basic 3Ds Like Cube, Cuboids, Cylinder, Prism and Pyramid.

**TRADE : ARCHITECTURE**

**11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**BASICS OF BUILDING**

**CONSTRUCTION THEORY**

**Time :2hrs**

**Theory : 30Marks**

**CCE : 10 Marks**

**Practical : 50 Marks Total  
: 90Marks**

### **Building Layout**

Introduction of Building Construction, Classification of Building, Briefly Write about the Sequence of Civil Works for Building Construction, Basic Elements of Building - Foundation, Plinth, Plinth Course, Column, Floor, Roof, Parapet, Copping.

### **Foundation**

Introduction, Purpose, Formula to Design the Width and Depth of Foundation.

### **Brick and Stone Masonry**

Introduction, Advantages of Brick Masonry over Stone Masonry, Mortar of different ratios and types of Mortar used in Brick and Stone Masonry, General Principle for Brick and Stone Masonry.

### **Damp and Damp Prevention**

Introduction, Effects of Dampness on Building, Methods to Prevent Dampness in Building by Treatment of - Foundation, Walls, Copping and Parapet, Roof.

### **Doors and Windows**

Introduction, Technical Term - Frame, Sill, Lintel, Vertical Post, Leaf, Styles, Top Rail, Bottom Rail, Rebate, Horns, Hold Fast, Points to be Considered While Making and Fixing Doors and Windows, Types of Door - Battened Door, Paneled Door, Paneled and Glazed Door, Flush Door, Wire Gauged Door, Rolling Steel Door, Collapsible Doors, Types of Windows - Dormer, Corner, Sky Light Window, Clear Storey Window, Metal Windows, Fittings of Doors and Windows.

### **Floors**

Introduction, Component of Floor, Classification - Mud Floor, Brick Floor, Flag Stone Floor, Cement Concrete Floor, Tile Floor, Terrazzo Floor, preparation of Floor Base.

### **Stairs**

Introduction, Technical Term - Tread, Riser, Nose, Step, Fight, Landing, Soffit, Newels, Hand Rail, Staircase, Types of Stairs - Straight Stair, Open Well, Bifurcated, Spiral, Circular, Steel and R.C.C Stair.

## Roofs

Introduction, Sloping Roofs - Lean to Roof, Couple Roof, Couple Closed Roof, FlatRoofs  
- Thatch Roof, Tiles or Bricks Roofs, Reinforcement Concrete Roof.

## Reinforced Cement Concrete (R.C.C.)

Introduction- Cement , Fine aggregate, Coarse Aggregate, Cement Mortar, Advantages and Disadvantages, Technical Term - Span, Effective Span, Hook, Overlap Joint, Cover, Cranked Bar, Straight Bar, Uses of R.C.C.

## Water Supply and Sewerage System

Introduction, Sources of Water , Conveyance of Water, types of water supply system – Continuous & Intermittent, Pipe and their Types, Pipe Joints, System of Sewerage, Types of Sewerage systems - Separate, Combined ,Partial, Drains and Sewers, Manhole, Septic Tank, Soak Pit.

## Plaster, Pointing, White and Color Washing

Introduction, Advantages, Types of Plaster, Introduction of Pointing, Advantages of Pointing, White Washing, Snowcem Washing, Distempering.

### BASICS OF BUILDING CONSTRUCTION

**Time:3hrs**

**PRACTICAL**

**Marks :50**

- Drawing of different types of coping.
- Drawing of doorframe. ( Wooden, Aluminum, Steel)
- Drawing of different DPC (damp proof course)
- Drawing of different types of door.
- Drawing of different types of window.
- Drawing of different fittings of doors and windows.
- Drawing of different types of floor (Plan & Section).
- Draw different types of roof.
- Drawing of different types of stairs & members of stair case.
- Draw plan and section of main hole
- Draw plan of septic tank and soak pit.
- Site Visits.

**(iv)TRADE : MECHANICAL**

**11<sup>th</sup> VOCATIONAL**

**PAPER-I**

**LATHE MACHINE AND OPERATIONS**

**THEORY**

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

**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.

**Introduction to Lathe**

Lathe, Centre Lathe, General Purpose Lathe Machine, Types, Specification, Safety Rules of the Workshop. Principle of Lathe.

**Lathe Machine Parts**

Study of Various Lathe Parts and Sub Assemblies of Lathe & their Functions, Description and Sketches of Accessories - Lathe Centers, Face Plate, Dressing Plate, Angle Plate, Three Jaw Chuck, Four Jaw Chuck, Collet Chuck, Mandrel, Steady Rest, Moving Rest, Tail Stock, Taper Turning Attachments.

**Cutting Tools**

Cutting Tools Geometry of Single Point Cutting Tool, Various Angles and their Values for Cutting Different Metal Jobs, Classification of Cutting Tools, Special Purpose Tools

- Facing Tool, Parting off Tool, Threading Tool, Boring Tool, Knurling Tool, Tool Material - Classification, Composition, Properties and Applications of High Carbon Steel, High Speed Steel, Carbide, Ceramic and Diamond.

**Lathe Machine Terminology**

Taper, Taper Turning, uses of Taper, Explanation of Taper, Calculations for Taper, Conicity - Speed, Feed, Depth of Cut.

**Lathe Operations:**

Centering, Simple Turning, Step Turning, Facing, Drilling, Boring, Tapering, Knurling, Parting off, Taper Turning , Chamfering, Finishing.

### **Calculations for Thread Cutting**

Explanation of Simple Gear Train and Compound Gear Train, Calculation for Change of Wheels for Metrics Thread on English Lead Screw, Cutting Multiple Threads, Brief Description with Dies, Feed Gear Box.

### **CNC Machine**

Introduction, Applications, Uses, Advantages and Disadvantages

## **LATHE MACHINE AND OPERATIONS**

**Time: 3 Hrs**

**PRACTICAL**

**Marks : 50**

- Holding of job in four jaw chuck, centering with the help of check method, scribe and cutting tool.
- Setting the tool in tool post, plain turning, facing and parting off on M.S rod as per dimensions given by teacher .
- Step turning on M.S. Bar as per dimensions given by teacher.
- Grinding of single point cutting tool according to specific geometry.
- Taper turning and knurling and chamfering, threading.
- Drilling and Boring.
- Dismantling and assembling of different accessories and care & maintenance of lathe machine.

## **TRADE : MECHANICAL**

### **11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**ENGINEERING MATERIAL**

**THEORY**

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

### **Introduction**

Materials Classification - Metals, Ferrous and Non Ferrous, Metals and Non Metals, Different Non - Metals, Plastic, Rubber and Wood.



## **Properties of Materials**

Physical and Mechanical Properties, Physical Properties - Colour, Weight etc, Mechanical Properties - Strength, Elasticity, Plasticity, Ductility , Brittleness, Malleability, Hardness, Toughness, Technological Properties - Machinability, Formability, Weldability, Measurement of Hardness - Brinell and Rockwell.

## **Ferrous Metals**

Mineral Ores, Different types of Ores, Metallurgical Definitions, Description of Pig Iron, Process, Working of Blast Furnace, Types of Cast Iron, Wrought Iron - Composition, Properties and uses, Steel - Composition, Properties and uses.

## **Steel and Alloy steel**

Introduction, Composition of MS in %age of Properties, Uses of Steel, Manufacturing of Carbon Steel, Basic Constituents of Steel, Composition, Properties and Uses of Special Alloy Steel - Chromium, Nickel, Stainless Steel, High Carbon Steel, High Speed Steel, Molybdenum, Tungsten and Vanadium Steel.

## **Mechanical Working of Metals**

Introduction, Mechanical Working (Process), Hot Working, Principle Methods of Hot Working - Rolling (Hot and Cold), Drawing, Extracting and Forging (only Drop Forging).

## **Sheet Metals and Pipe Fittings**

Introduction, types of Sheets, Thickness of Sheet Metals – in MM, Gauge No. Uses of Sheet Metal, Layout of Sheet Metals, 4 No.S- Pipe Fittings (only Description).

## **Solar Gadgets**

Working Principles, Introduction, Types and Uses of - Solar Cookers, Solar Water Heaters, Solar Photovoltaic Panels and Solar Dryers etc, Components of Solar Cookers - Reflector, Boxes, Insulation, Adjustment/ Orientation/ Alignment of Solar Gadgets for Efficient Uses, Common Faults and Corrective Measures, Safety and Precautions in use of Solar Gadgets.

## **Biogas Plant and Appliances**

Working Principles, Commonly used Substance for Biogas Production, Introduction - KVIC, Fixed Dome Type Bio Gas Plants, Appliances - Burners, Lantern, Engines and Uses, Main Components of Biogas Plants - Digester, Inlet, Outlet, Gas Holder/ Dome

and their Functions, Gas Conveyance Pipe Lines and Water Draining Devices, Installation and Commissioning of Biogas Plants and Appliances, Repair and Routine Maintenance of Biogas Plants.

### **Non Ferrous Metals and Alloys**

Introduction, Properties and Uses of Copper and Aluminium.

### **Other Important Engg. Materials**

Rubber, Plastic, Properties and Application of Thermoplastic and Thermo Setting Plastic, Applications of Rubber, Ceramics, Wood.

### **Quality Concept**

Definition of Term "Quality", Introduction to Quality Standards according to BIS - ISO 14000 and ISO-9000.

## **ENGINEERING MATERIAL**

**Time: 3 Hrs**

**PRACTICAL**

**Marks : 50**

- To identify and distinguish between different engineering materials based on observations, physical properties - Make a write up.
- To distinguish between mild steel, cast iron and high speed steel by spark pattern test on a grinder.
- To make a funnel and weld/ solder its joint.
- 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.
- Familiarization and identification of different parts of components of commonly available solar cooker, solar water heater, solar photovoltaic and solar dryers, function of different parts and adjustment for their efficient use.
- Familiarization and identification of different components of biogas plants and appliances, function of different parts, routine repair and maintenance of biogas appliances.

## **TRADE : MECHANICAL**

### **11<sup>th</sup> VOCATIONAL**

**PAPER-III**

**MECHANICAL DRAWING - I**

#### **THEORY**

**Time : 2 Hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

#### **Mechanical Drawing & Engg. Drawing**

Introduction , Artistic and Engg. Drawing, Civil, Electrical, Mechanical Engg. Drawing.

#### **Geometrical Drawing**

Introduction, Plane and Solid Geometrical Drawing.

#### **Drawing Instruments**

Drawing and Uses of Engg. Drawing Instruments.

#### **Title Block**

Meaning and Details, Maintenance of Drawing Sheet.

#### **Geometrical Construction**

Point, Straight Line, Angle, Acute Angle, Right Angle, Obtuse Angle, Straight Line Angle, Complete Angle, Reflect Angle.

#### **Plain Figure**

Circle , Arc, Chord, Centre, Diameter, Radius, Tangent Line, Segment, Sector.

#### **Triangle**

Introduction, types of Triangles - Scalene, Equilateral, Isosceles, Acute, Obtuse, Right Angled Triangle.

#### **Quadrilaterals**

Introduction, Square, Rectangle, Rhombus, Parallelogram, Trapezium, Difference between Square and Rhombus.

#### **Solid Geometry**

Introduction, Types - Prism, Pyramid, Cube, Cylinder, Cone, Sphere.

#### **Polygons**

Pentagon Figure / Construction, Hexagonal, Octagonal.

#### **Lines, Lettering and Dimensions**

Introduction, Definition, Types, Uses and Important Rules.

## MECHANICAL DRAWING - I

Time: 3 Hrs

PRACTICAL

Marks : 50

### Geometrical Constructions

- Introduction, definition of points, lines, angles.
- Size of sheet and layout of sheet, Standard sizes of drawing sheets, margin, title block etc.
- Review of geometrical constructions - dimensions of straight line and angle, triangle, quadrilateral, polygon, circles.
- Draw parallel lines, perpendiculars, different patterns, tangents.

### Lines, Lettering, Dimensions and Conventions

- Lines, materials, solids, breaks, conventional representation used in engineering.
- Standard practice for writing single stroke and double stroke in 7:4. (Note - metal stage graph paper may be used after some practice, student should be able to draw graph).
- Standard practice for numerals, dimensioning.

### Scales

- Representative factor, simple, reduced & enlarged scale, plane and diagonal scale.

### Free Hand Sketching

- Lines, circles, squares, rectangles, areas and curves.
- Diagram of solids - round, cube, rectangular block, cylindrical block, cone, prism, hexagonal etc.
- Free hand sketch of locking devices - washer, spring washer, keys etc.

### 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 figures.
- Orthographic projections of nut & bolt (square as well as hexagonal).

(v)TRADE : COMPUTER SCIENCE

11<sup>th</sup> VOCATIONAL

PAPER-I

COMPUTER FUNDAMENTALS

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90 Marks**

**Introduction to Computers**

Historical evolution of computers, Generations of computers, Classification of computers - based on size, processor, Usefulness of Computers. Applications of computers, Block Diagram along with its components and characteristics, function of CPU and major functional parts of CPU. State the relevance of speed and word length for CPU Performance, Recognize the current family of CPUs used in Computers,

**Data Representation**

Definition Of Information, difference between data and information ,importance of Binary Number System, various number systems, Conversion from Decimal to Binary, Conversion from Binary to Decimal, binary number into hexadecimal number, hexadecimal number into binary number System, Data Representation within Computer - Bits, Bytes, Kilobytes, Gigabytes, Terabytes, Petabytes, Memory, Primary memory - RAM, ROM, Secondary memory with respect to structure and file organization - Hard disk, CD-R,CD-RW, DVD, Zip Drive, Pen Drive, Memory Card.

**Input/ Output Devices**

Input Devices - Keyboards, Mouse, Touch Screen, Scanner, Joystick, Microphone, Web Camera, Digitizer, OMR, MICR, Bar Code Reader.

Output Devices - VDU, Printers (Dot Matrix Printer, Inkjet Printer, Laser Printer), Plotter, Speaker.

**Operating Systems**

DOS & Windows Operating Systems, Hardware and Software, Introduction and need of operating system, Types of operating system, DOS operating system, Types of DOS Commands, operating system as a resource manager; BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI and CUI standards. Directories and files , wild cards, autoexec.bat, config.sys.

**MS-Window Latest Version**

Introduction to Windows, features of Window desktop, components of Window, Installing/ Removing Windows Application, Control Panel, System Settings, method of starting a program using start button, Understand maximize, minimize, restore down and close button, uses of file and folder, method of viewing the contents of hard disk drive using explore option, control panel,disk

defragmentation installation and un installation of the application software.

Backup and Restore, Disk Defragmentation, System Restore, Connecting to a Network, Using Media Player, Photos and Movies, Common Complaints with Windows and their Fixes, Upgrading Windows.

### **Internet**

What is Internet, Connection Methods, Types of Connections, role of the modem in accessing the internet, installation procedure of a modem using control panel, purpose of web browser software, LAN, MAN, WAN, Topology, Internet, Intranet, Extranet, internet service provider and its relevance, Internet Configuration, Browsers - Microsoft Internet Explorer, Netscape Navigator, Google Chrome, Opera, Internet Applications - Voice Mail, Chatting, Discussion Forums, Newsgroup, Entertainment, Information searching, Online education, e-Governance, search engines, social network sites, internet security, Firewall, Cloud Computing and its services, IP address and its format, MAC Address, DNS.

### **e-mail**

What is e-mail? Advantages and Disadvantages, Sending and Receiving Messages, Checking Mail, Reading Mail, Replying Mail.

## **COMPUTER FUNDAMENTALS**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Familiarization with Computer System and its peripheral devices
- Installation of latest version of windows.
- Practice of internal and external commands of DOS.
- Working practice on windows operating system : creating file, folder. Copying, moving, deleting file, folder
- Installing and uninstalling of new software using control panel.
- Installation and uninstallation of new hardware drivers using control panel.
- Disk defragmentation using system tool
- Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).
- Changing resolution, colour, appearances, and screensaver option of the display.
- Changing System Date and Time.
- User Account creation and its feature on Windows Operating System.
- Email Account creation, reading, writing and sending emails with attachments.
- Internet browsing using browsers.
- Using of Search Engine to get information from internet

**TRADE : COMPUTER SCIENCE**

**11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**PROGRAMMING IN C**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90Marks**

**Fundamental of C Programming**

History of C, Structure of a C Program, Writing and executing the first C program, Data types - int, float, char, double, void, Constant and Variables, Variable Declaration - integer, real/float, character, logical variable, string variable, Constants.

**Operators and Expressions**

Arithmetic operators, Relational operators, Logical operators, Expressions, Bit operation, ? operator, & operator, \*operator, Type casting, type conversion

**Decision Making and Looping Statements**

Introduction, decision making with IF – statement, IF – Else and Nested IF, Ladder if-else, Loop: While, do-while, for, Break, Continue, goto and switch statements

**Arrays and Functions**

Introduction to Arrays, Arrays Declaration, One and Two Dimensional Arrays, Manipulating array elements, Single and Multidimensional Array, Arrays of characters, Introduction to functions, Global and Local Variables, Function Declaration, Function Call and Return, Types of Functions, Standard functions, Parameters and Parameter Passing, Call - by value/reference, recursive function, function with array, Passing an array to function, Introduction of Strings, String declaration and definition, String Related function i.e. strlen, strcpy, strcmp

**Structured Programming**

Declaration of structures, Accessing structure members, Structure Initialization, array of structure variable, Pointer to a structures, Union, Declaration of Union, Control structures, Break and Continue, Exit ( ) function, Go to and Label.

**Pointers**

Introduction to pointers, Static and dynamic memory allocation, Address operator and pointers, Declaring and initializing pointers, Single pointer, Pointers to an array

## **Basic I/O**

File Handling, Basics of File Handling, opening and closing of File, reading and writing character from a file, File Assessing Functions - fopen, fclose, putc, getc, fprintf, C pre-processor, # define, # include, # undef, # Conditional Compilation Directives - #if, #else, #elif, #endif, #ifdef and #ifndef, C Standard Library and 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.

## **PROGRAMMING IN C**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Programming exercises on executing and editing a C program.
- Programming exercises on defining variables and assigning values to variables.
- Programming exercises on arithmetic, logical and relational operators.
- Programming exercises on arithmetic expressions and their evaluation.
- Programming exercises on formatting input/output using printf and scanf and their return type values.
- Programming exercises using if statement, using if – Else.
- Programming exercises on switch statement, while and do – while statement, for – statement.
- Simple programs using functions and recursive function.
- Programs on one-dimensional array, two-dimensional array.
- Programs for concatenation two strings together, comparing two strings.
- Simple programs using pointers, using structures, using union.
- Simple programs for File Handling



**Paper-III**

**Time : 2 hrs.**

**Basic of Web Designing**

**THEORY  
Syllabus**

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

**Web Design Principles:**

Basic principles involved in developing a web site - Planning process, Five Golden rules of web designing, Designing navigation bar, Page design, Home Page Layout, Design Concept.

**Basics in Web Design**

Brief History of Internet, What is World Wide Web, Why create a web site, Web Standards, Audience requirement.

**Introduction to HTML**

What is HTML, HTML Documents, Basic structure of an HTML document, Creating an HTML document, Mark up Tags, Heading-Paragraphs, Line Breaks, HTML Tags.

**Elements of HTML**

Introduction to elements of HTML, Working with Text, Working with Lists, Tables and Frames, Working with Hyperlinks, Images and Multimedia, Working with Forms and controls.

**Introduction to Cascading Style Sheets(CSS)**

Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling - Background, Text Format, Controlling Fonts, Working with block elements and objects, Working with Lists and Tables, CSS Id and Class.

**Introduction to Web Publishing or Hosting**

Creating the Web Site, Saving the site, Working on the web site, Creating web site structure, Creating Titles for web pages, Themes - Publishing web sites

**Practical Syllabus:**

- Acquaintance with elements, Tags and basic structure of HTML files.
- Develop the concept of basic and advanced text formatting.
- Practice the use of multimedia components in HTML documents.
- Designing of webpage-Document Layout, Working with List, Working with Tables.
- Practice Hyper linking, Designing of webpage-Working with Frames,Forms and Controls.
- Prepare creating style sheet, CSS properties, Background, Text,Font and styling etc.
- Working with List, HTML elements box, Positioning and Block properties in CSS.
- Designing with cascading style sheet-Internal and External style sheet.



**(vi)TRADE : AUTOMOBILE ENGINEERING**

**11<sup>th</sup>VOCATIONAL**

**PAPER-I**

**ENGINEERING DRAWING**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total :90Marks**

**Equipments**

Introduction, Care and Use of Drawing Instruments and Material, List of Equipments - Mini Drafter, Drawing Board, T- Square, Set Square, Protractor, Pencil, Compass, Drawing Paper or Drawing Sheet, Eraser, Drawing Pins, Adhesive Tape, Engineering Scales, Sand Paper, French Curves, Instrument Box.

**Engineering Drawing**

Introduction to Engineering Drawing, Free Hand Lettering on Graph Paper, Layout of Drawing Sheet, Margin, Borderline, Title Block, Technical Lettering, Convention for Lines, Different types of Engineering Lines as per ISI Specifications, Practice in Free Hand Sketching of Vertical, Horizontal, Inclined Lines, Geometrical Figures : Triangle, Rectangles, Circles, Polygon, Ellipse, Parabola and Involutives of a Circle.

**Material Representation**

Conventional Representation of Different Material in Sections: Shaft, Hollow Pipe, Rectangular, Square, Angle, Channel, I-Section etc.

**Dimensioning**

Necessity of Dimensioning, Method and principles of dimensioning, Notation of Dimensioning, System of Placing Dimensions - Aligned System, Unidirectional System, Scales, Sizes of Scales.

**Workshop Practice**

- Description of Hand Tools used in Automobile Workshop, Precautions observed in a Workshop.
- Drawing Sheets of 1st Angle and 3rd Angle Projections of Solids.
- Introduction to Rivets and its Types.
- Concepts of AutoCAD (Computer Aided Design).
- Description of Measuring Tools and Instruments like Outside Caliper, Inside Caliper,

Vernier Caliper, Outside Micrometer, Inside Micrometer, Dial Gauge, Marking Block and Gauge, Try Square, Bevel Protector, Bench Centre, Depth

Gauge, Compression Gauge, Pressure Gauge.

- Surface Plate, Use of Open End Spanner, Ring Spanner, Box Spanner, Sockets, Torque, Wrenches, Adjustable Wrench, Allen Key.
- Introduction to Paints commonly used in Automobile.

### **ENGINEERING DRAWING**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- Use of the hand tools, measuring tools and measuring instrument used in workshop.
- To practice efficient use of files by producing plane surfaces, straight edges of right angle, fillets and round corners.
- To learn efficient and accurate use of hacksaw cutting.
- Fitting a square hole in a M.S.flat.
- Extraction of a broken stud.
- Use of hand tools and equipment used in painting and denting.
- Visit to a nearby mechanical workshop.
- Exercise to learn fixing and setup of mini drafter making margin on drawing sheet and making of title box.
- Practice of letter writing in freehand and Roman.
- Use of hammer (wooden, plastic, and metal) for denting.
- Use of vernier caliper, calculation of least count and knowing accuracy of instrument.
- Use of micro meter for accurate sizes.
- Use of hand tools pliers, screw driver, spanner, file and dot punch etc in workshop.

## **TRADE : AUTOMOBILE ENGINEERING**

**11<sup>th</sup> VOCATIONAL**

**PAPER-II**

**AUTOMOBILE ENGINE**

**THEORY**

**Time : 2 hrs**

**Theory : 30 Marks**

**CCE : 10 Marks**

**Practical : 50 Marks**

**Total : 90 Marks**

#### **Technical Terms**

Define Automobile Engine, Power: H.P., B.H.P., I.H.P., Carnot Cycle, Diesel Cycle, Otto Cycle, Stroke, TDC, BDC, Compression Ratio, Engine Capacity, Clearance Volume, Swept Volume, Engine Torque, Pressure, Heat, Temperature.

## **Engine**

Classification of Engines as per stroke, cycle, fuel, ignition, cooling, speed and number and arrangement of cylinders, Principle, Basic Engine Operations, 4-Stroke, 2-Stroke Engine & their difference, Spark & Compression Ignition and their difference.

### **Engine Construction & Mechanism**

Cylinder Block, Crank Case, Cylinder Liner, Cylinder Head, Manifolds, Piston, Piston Pin, Piston Ring, Connecting Rod, Crankshaft, Cam Shaft, Flywheel and Valves.

### **Ignition System**

Battery - Construction, Working and Principle, Concept of Ignition System, Types of Ignition System : Magneto, Battery Ignition & their difference, Capacitor Discharge Ignition System, Distributor, Ignition Coil, Spark Plugs, Ignition Timing, Firing Order.

### **Fuel System**

Types of Fuel Feed System: Gravity and Pump Feed, Petrol: Fuel Line Diagram, Carburetor - Types of Carburetor: Solex and Amal Carburetor, Function and Working Principles of Carburetors, Air Filter, Fuel Gauge, Inlet and Exhaust Manifold, Introduction to MPFI System (Multi Point Fuel Injection Systems), Advantages and disadvantages of MPFI.

Diesel: Fuel Line, Diagram, Fuel Injection Pump, Fuel Feed Pump, Pressure Pipe, Fuel Injector. Introduction to CRDI (Common Rail Direct Injection System).

### **Engine Cooling System**

Cooling Requirement, Cooling Systems, Air Cooling and Liquid Cooling, Advantages and Disadvantages of Air Cooling and Water Cooling System, Water Jacket, Coolant Pump, Cooling Fan, Radiator, Pressure Cap, Anti Freeze Solution, Introduction to Thermostat.

### **Lubrication System**

Necessity of Lubrication System, Principles, Functions, Properties of Lubricating Oil, Classification and Service Range of Lubrication Oil, Introduction to SAE Rating, Lubricating System, Oil Filter, Oil Pump: Gear type and Electrical, Oil Pressure Gauge.

## **AUTOMOBILE ENGINE**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- To study the construction and working of a two stroke single cylinder air -

cooled petrol engine using a sectional model.

- To study the construction and working of a four stroke single cylinder air - cooled petrol engine using a sectional model.
- To study the construction and working of a two stroke single cylinder air - cooled diesel engine using a sectional model.
- To study the construction and working of a four stroke single cylinder air - cooled diesel engine using a sectional model.
- To study the construction and working of; Fuel Feed Pump, Fuel Injection Pump, Diesel Injector.
- To study the construction and working of: mechanical fuel pump, electric fuel pump, carburetor.
- To study the construction and working of lubricating oil pump.
- To study the construction, working and details of maintenance of distributor assembly.
- Batterytesting; Electrolyte Testing by Hydrometer and High Rate Discharge Test.
- Spark plug cleaning and adjusting its gap.
- Carburetor servicing.
- Removal, cleaning & refitting of air cleaners.
- Replacement of cylinder head gasket.
- Practice in Piston Ring Removal.
- Cleaning of fuel tank and oil sump and refilling.
- Check engine compression.
- Precautions to be observed before and after starting the engine.
- To check the thermostat working.

# TRADE : AUTOMOBILE ENGINEERING

## 11<sup>th</sup>VOCATIONAL

PAPER-III

TRANSMISSION SYSTEM

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total :90Marks

### Classification of Automobile

Chassis Layout of Conventional Motor Vehicle, Front and Rear - Wheel Drive, Rear Engine Vehicle, Four Wheel Drive.

### Clutch

Function of Clutch and its Principle of Working, Types of Clutch, Constructional Details of Single Plate and Multi - Plate Clutches, Centrifugal Clutch, Fluid Coupling, Trouble Shooting of Clutch and its Adjustments.

### Propeller Shaft & Universal Joints

Propeller Shaft, Function of Propeller Shaft, Constructional Details of Propeller Shaft, Universal Joints, Function of Universal Joints, Constructional Details of Universal Joints, Types of Universal Joint.

### 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, Trouble - Shooting of Gearbox and its Adjustments, Introduction to Continuous Variable Transmission (CVT), Automatic Manual Transmission (AMT), Dual Clutch Transmission (DCT).

### Differential

Function of Differential, Constructional Details, Working Principles of Differential, Trouble - Shooting of Differential, Adjustments.

### Rear Axle

Function of Rear Axle, Types, Constructional Features, Trouble -Shooting, Adjustments.



## **TRANSMISSION SYSTEM**

**Time: 3 hrs**

**PRACTICAL**

**Marks : 50**

- 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.
- 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.
- To study the chassis layout of two wheeler, three wheeler and fourwheeler.
- Flushing and refilling of transmission oil.
- To dismount and dismantle the gears of a constant mesh gear box from a vehicle, clean, inspect report on the condition, repair, reassemble, remount and adjust.
- To dismount the rear axle shafts from a four 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.
- To lift the vehicle with the help of jack.
- To identify the cracks on defective chassis frame.
- To study the tightening & loosening of clutch.
- To study the overhauling rear axle of four wheeler.
- Greasing of wheel bearing of four wheeler.