

# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी

## Question paper Design 2020-21

Class: 12<sup>th</sup> Subject: Public Administration  
Session: 2020-21 Annual/Supplementary  
Time: 2:30 hrs

Books Name:

Marks: 80

### 1 Weightage to Objectives

| Objective           | K  | U  | A  | S  | Total |
|---------------------|----|----|----|----|-------|
| Percentage of Marks | 60 | 30 | 10 | 00 | 100   |
| Marks               | 48 | 24 | 08 | 00 | 80    |

### 2 Weightage to Form of Questions

| Form of questions | E  | SA | VSA | Objective type | Total |
|-------------------|----|----|-----|----------------|-------|
| No of Questions   | 03 | 05 | 05  | 40             | 53    |
| Marks allotted    | 15 | 15 | 10  | 40             | 80    |
| Estimated time    | 30 | 45 | 35  | 40             | 150   |

### 3 Weightage to content:

| Reading Comprehension                       | Marks |                 |             |
|---|-------|-----------------|-------------|
|   | Marks | No of Questions | Total Marks |
| 1 Chief Executive, Union Executive.         | 16    |                 | 16          |
| 2 Indian Federalism, Supreme Court of India | 16    |                 | 16          |
| 3 Union, Public service commission          | 07    |                 | 07          |
| 4 Union Budget                              | 07    |                 | 07          |
| 5 Recruitment                               | 09    |                 | 09          |
| 6 Training                                  | 09    |                 | 09          |
| 7 Panchayati Raj                            | 16    |                 | 16          |

4 Scheme of Sections : A:B:C:D

5 Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.

Abbreviations: K(Knowledge of element of language) C(Comprehension) E(Expression) A (Appreciation) E(Essay Type) SA(Short Answer) VSA(Very Short Answer)O(Objective type)

# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी।

## QUESTION PAPER DESIGN.

|                               |                    |        |
|-------------------------------|--------------------|--------|
| CLASS- 12th                   | SUBJECT- PHE. EDU. | BOOKS- |
| SESSION- ANNUAL/SUPPLEMENTARY |                    |        |
| TIME- 2.30 HOURS              | MARKS- 60          |        |

### 1 WEIGHTAGE TO OBJECTIVES

| OBJECTIVE           | K  | U     | A     | S | TOTAL |
|---------------------|----|-------|-------|---|-------|
| PERCENTAGE OF MARKS | 50 | 36.67 | 13.33 |   | 100   |
| MARKS               | 30 | 22    | 08    | - | 60    |

### 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | E ( MARKS) | SA ( MARKS) | VSA ( MARKS) | OBJECTIVE TYPE ( MARKS) | TOTAL |
|-------------------|------------|-------------|--------------|-------------------------|-------|
| NO. OF QUESTIONS  | 02         | 04          | 04           | 30                      | 40    |
| MARKS ALLOTTED    | 10         | 12          | 08           | 30                      | 60    |
| ESTIMATED TIMES   | 50         | 45          | 20           | 35                      | 150   |

### 3 WEIGHTAGE TO CONTENT:

| MARKS                                    | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
|--|-------|------------------|-------------|
| 1. Physical Fitness & Wellness           | 09    |                  | 09          |
| 2. Training Method                       | 07    |                  | 07          |
| 3. Health Education                      | 07    |                  | 07          |
| 4. Athletic Care                         | 06    |                  | 06          |
| 5. Sociological Aspects of Physical Edu. | 06    |                  | 06          |
| 6. Family Life Education                 | 07    |                  | 07          |
| 7. Yoga Education                        | 05    |                  | 05          |
| 8. Olympic Movements                     | 04    |                  | 04          |
| 9. National Sports Award                 | 09    |                  | 09          |

4. Scheme of Sections : A:B:C:D
5. Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.

Abbreviations: K (Knowledge), U (Understanding), A (Application), S (Skill)  
E (Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)

प्रश्न-पत्र बोर्ड द्वारा निर्धारित पुस्तकों से ही सेट किया जाएगा। कृपया अध्यापकगण बोर्ड द्वारा निर्धारित पुस्तकें ही पढ़ाएँ।



## QUESTION PAPER DESIGN

|                               |             |             |
|-------------------------------|-------------|-------------|
| CLASS- 12th                   | SUBJECT-CPU | BOOKS- HBSE |
| SESSION- ANNUAL/SUPPLEMENTARY |             |             |
| TIME- 2.30 HOURS              | MARKS- 40   |             |

## 1 WEIGHTAGE TO OBJECTIVES

|                     |    |    |    |    |       |
|---------------------|----|----|----|----|-------|
| OBJECTIVE           | K  | U  | A  | S  | TOTAL |
| PERCENTAGE OF MARKS | 50 | 20 | 15 | 15 | 100   |
| MARKS               | 20 | 08 | 06 | 06 | 40    |

## 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | E<br>( 04<br>MARKS) | SA<br>( 03<br>MARKS) | VSA<br>( 02<br>MARKS) | OBJECTIVE TYPE<br>( 01 MARKS) | TOTAL |
|-------------------|---------------------|----------------------|-----------------------|-------------------------------|-------|
| NO. OF QUESTIONS  | 02                  | 02                   | 03                    | 20                            | 27    |
| MARKS ALLOTTED    | 08                  | 03                   | 06                    | 20                            | 40    |
| ESTIMATED TIMES   | 40                  | 30                   | 30                    | 50                            | 150   |

## 3 WEIGHTAGE TO CONTENT:

[illegible]

4. Scheme of Sections :  
A:B:C:D
- 
5. Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.

Abbreviations: K (Knowledge), U (Understanding), A (Application), S (Skill)  
E (Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)



# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी।

## QUESTION PAPER DESIGN.

|                               |                    |        |
|-------------------------------|--------------------|--------|
| CLASS- 10+2                   | SUBJECT- OSS HINDI | BOOKS- |
| SESSION- ANNUAL/SUPPLEMENTARY |                    |        |
| TIME- 2.30 HOURS              | MARKS- 60          |        |

### 1 WEIGHTAGE TO OBJECTIVES

| OBJECTIVE           | K   | U   | A   | S   | TOTAL |
|---------------------|-----|-----|-----|-----|-------|
| PERCENTAGE OF MARKS | 50% | 20% | 10% | 20% | 100   |
| MARKS               | 30  | 12  | 06  | 12  | 60    |

### 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | E ( MARKS) | SA ( MARKS) | VSA ( MARKS) | OBJECTIVE TYPE ( MARKS) | TOTAL |
|-------------------|------------|-------------|--------------|-------------------------|-------|
| NO. OF QUESTIONS  | 03         | 02          | 06           | 30                      | 41    |
| MARKS ALLOTTED    | 12         | 06          | 12           | 30                      | 60    |
| ESTIMATED TIMES   | 50         | 20          | 30           | 50                      | 150   |

### 3 WEIGHTAGE TO CONTENT:

#### PART-A ( MARKS)

| READING COMPREHENSION- 20 MARKS  |       |                  |             |
|--|-------|------------------|-------------|
|  | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
| (1) कार्यालय लेखन सामग्री-नोट पैड, कार्बन, स्टेपलर, पिन, फाईल कवर, लिफाफे, पैन, पेंसिल, पत्र, पेपर, लेखन सामग्री का अर्थ, महत्व, उपयोग, नियन्त्रण।   | 24    |                  | 24          |
| (2) संचार प्रणालियाँ-टेलिफोन, टेलिफोन पर बात करने का ढंग(आवासंहिता) फैक्स, ई.मेल।  |       |                  |             |
| (3) तकनीकी संचार सुविधाएँ-मोबाईल।  |       |                  |             |
| अन्तिम हुक-(छोटा/बड़ा) अर्द्धकरण-सिद्धान्त के अर्थ एवं नियम, उपसर्ग, प्रत्यय निर्माण एवं प्रयोग। राज्यों, गृह, नक्षत्रों एवं विभागीय शब्दावलिओं के वाक्यांश, सप्ताह के नाम व जिलों के नाम।   | 20    |                  | 20          |
| कम्प्यूटर की मौलिकता, (मौलिक भाग) उनका कार्य, कम्प्यूटर की विशेषताएँ, Processing Device CPU। MS excel-MS excel क्या है। कार्यालय में क्या उपयोग है। MS excel में कार्य का फार्मुला डालना, सैल डालना, सैल हटाना, स्पेलिंग चेक, डाटा भरना, डाटा हटाना आदि। | 16    |                  | 16          |
|  |       |                  |             |
|  |       |                  |             |

4. Scheme of Sections : A:B:C:D
5. Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.

Abbreviations: K (Knowledge), U (Understanding), A (Application), S (Skill)  
E (Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)

प्रश्न-पत्र बोर्ड द्वारा निर्धारित पुस्तकों से ही सैट किया जाएगा। कृपया अध्यापकगण बोर्ड द्वारा निर्धारित पुस्तकें ही पढ़ाएँ।



# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी।

## QUESTION PAPER DESIGN.

|                               |                  |        |
|-------------------------------|------------------|--------|
| CLASS- 10+2                   | SUBJECT- OSS Eng | BOOKS- |
| SESSION- ANNUAL/SUPPLEMENTARY |                  |        |
| TIME- 03: HOURS               | MARKS- 60        |        |

### 1 WEIGHTAGE TO OBJECTIVES

| OBJECTIVE           | K   | U   | A   | S   | TOTAL |
|---------------------|-----|-----|-----|-----|-------|
| PERCENTAGE OF MARKS | 50% | 20% | 10% | 20% | 100   |
| MARKS               | 30  | 12  | 06  | 12  | 60    |

### 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | 04 E<br>( MARKS) | 03 SA<br>( MARKS) | 02 VSA<br>( MARKS) | 01 OBJECTIVE TYPE<br>( MARKS) | TOTAL |
|-------------------|------------------|-------------------|--------------------|-------------------------------|-------|
| NO. OF QUESTIONS  | 03               | 02                | 06                 | 30                            | 41    |
| MARKS ALLOTTED    | 12               | 06                | 12                 | 30                            | 60    |
| ESTIMATED TIMES   | 50               | 20                | 30                 | 50                            | 150   |

### 3 WEIGHTAGE TO CONTENT:

#### PART-A ( MARKS)

| READING COMPREHENSION- 20 MARKS   |       |                  |             |
|---|-------|------------------|-------------|
|   | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
| I mony office, Stationory, Stok Register meeting, Notice, Agenda, Question Telephon directy Post office , guide, Railvoj, Time Topic C.C.T.V, Secretary function, Qualities, Qualification. | 24    |                  | 24          |
| II Consonet vovs R & H, dipthongs Phrareogiaphy good Phsore, Circle, S & Z large circle SS, SW, SZ  | 20    |                  | 20          |
| III Computer accosaries as Paint-Brish Calculation note-pad Entertainment Communication, M.S Word. Option of file meny Format meny Insert-Topic Spelling Checck.                            | 16    |                  | 16          |
|   |       |                  |             |
|   |       |                  |             |

4. Scheme of Sections : A:B:C:D
5. Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.

Abbreviations: K (Knowledge), U (Understanding), A (Application) S (Skill)  
E (Essay Type), SA (Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)

प्रश्न-पत्र बोर्ड द्वारा निर्धारित पुस्तकों से ही सैट किया जाएगा। कृपया अध्यापकगण बोर्ड द्वारा निर्धारित पुस्तकें ही पढ़ाएँ।



# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी

## QUESTION PAPER DESIGN

|                         |                      |                       |
|-------------------------|----------------------|-----------------------|
| CLASS- 12 <sup>TH</sup> | SUBJECT- Urdu        | BOOKS-Gulistan-e-Adab |
| SESSION- 2020-21        | ANNUAL/SUPPLEMENTARY | Khayaban-e-urdu       |
| TIME- 02.30: HOURS      | MARKS- 80            |                       |

### 1 WEIGHTAGE TO OBJECTIVES

| OBJECTIVE           | K  | U     | A     | S   | TOTAL |
|---------------------|----|-------|-------|-----|-------|
| PERCENTAGE OF MARKS | 50 | 31.25 | 18.75 | --- | 100   |
| MARKS               | 40 | 25    | 15    | --- | 80    |

### 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | E (5 MARKS) | SA (3 MARKS) | VSA ( MARKS) | OBJECTIVE TYPE ( 40 MARKS) | TOTAL |
|-------------------|-------------|--------------|--------------|----------------------------|-------|
| NO. OF QUESTIONS  | 05          | 05           | ---          | 40                         | 50    |
| MARKS ALLOTTED    | 25          | 15           | ---          | 40                         | 80    |
| ESTIMATED TIMES   | 55          | 40           | ---          | 55                         | 150   |

### 3 WEIGHTAGE TO CONTENT:

#### PART-A (60 MARKS)

| READING COMPREHENSION- 20MARKS  |       |                  |             |
|---|-------|------------------|-------------|
| Gulistan-e-Adab   | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
| Gulistane Adab (Pros)-Maktoob Nagari, Tanqeedi Mazameen, Muktasar Afsana, Yadayan, Aap beeti, Raportaz, Tanz O Mezah, Safarnama, Khaka, | 10    | 02               | 10          |
| Gulistan-e-adab (Poetry)-Ghazal, Nazam  | 05    | 01               | 05          |
| Khayabane Urdu-Novel, Drama   |       |                  |             |
| Word Meanings   | 08    | 08               | 08          |
| Numbers/Genders   | 06    | 06               | 06          |
| Idioms & Poverbs  | 03    | 01               | 03          |
| Text Book (Objective Questions)   | 19    | 19               | 19          |
| Text Book (Short answer type questions)   | 09    | 03               | 09          |
| Total   | 60    | 40               | 60          |

#### PART-B ( 20 MARKS)

| Khayaban-e-Urdu                         | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
|---|-------|------------------|-------------|
| Khayaban-e-Urdu : Novel & Drama         | 05    | 01               | 05          |
| Essay/Letter                            | 05    | 01               | 05          |
| Text Book (Short answer type questions) | 03    | 01               | 03          |
| Text Book (Objective Questions)         | 07    | 07               | 07          |
| Total                                   | 20    | 10               | 20          |

|                            |    |    |    |
|----------------------------|----|----|----|
| Grand Total(Part-A+Part-B) | 80 | 50 | 80 |
|----------------------------|----|----|----|

4. Scheme of Sections :

A:B:C:D

5. Scheme of Options :

Internal Choice in long answer question i.e. essay type in two questions.



# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी।

## QUESTION PAPER DESIGN

|                  |                      |              |
|------------------|----------------------|--------------|
| CLASS- XII       | SUBJECT- MATHEMATICS | BOOKS- NCERT |
| SESSION- 2020-21 | ANNUAL/SUPPLEMENTARY |              |
| TIME- 2.30 HOURS | MARKS- 80            |              |

### 1 WEIGHTAGE TO OBJECTIVES

| OBJECTIVE           | K  | U  | A  | S  | TOTAL |
|---------------------|----|----|----|----|-------|
| PERCENTAGE OF MARKS | 50 | 30 | 10 | 10 | 100   |
| MARKS               | 40 | 24 | 08 | 08 | 80    |

### 2 WEIGHTAGE TO FORM OF QUESTIONS

| FORM OF QUESTIONS | E ( MARKS) | SA ( MARKS) | VSA ( MARKS) | OBJECTIVE TYPE ( MARKS) | TOTAL       |
|-------------------|------------|-------------|--------------|-------------------------|-------------|
| NO. OF QUESTIONS  | 02         | 04          | 06           | 40                      | 52          |
| MARKS ALLOTTED    | 12         | 16          | 12           | 40                      | 80          |
| ESTIMATED TIMES   | 30 Minutes | 25 Minutes  | 35 Minutes   | 60 Minutes              | 150 Minutes |

### 3 WEIGHTAGE TO CONTENT:

| MARKS                              | MARKS | NO. OF QUESTIONS | TOTAL MARKS |
|------------------------------------|-------|------------------|-------------|
| 1- Relation and Functions          | 10    | 10               | 10          |
| 2- Matrix and Determinants         | 12    | 7                | 12          |
| 3-Continuity and Differentiability | 09    | 07               | 09          |
| 4- Application of Derivatives      | 06    | 03               | 06          |
| 5- Integrals                       | 06    | 06               | 06          |
| 6- Application of Integrals        | 06    | 03               | 06          |
| 7- Differential Equations          | 04    | 03               | 04          |
| 8- Probability                     | 09    | 05               | 09          |
| 9- Vectors                         | 05    | 04               | 05          |
| 10- Three Dimensional Geometry     | 07    | 03               | 07          |
| 11- Linear Programming             | 06    | 01               | 06          |
|                                    |       |                  |             |
|                                    |       |                  |             |
|                                    |       |                  |             |
|                                    |       |                  |             |
|                                    |       |                  |             |
|                                    |       |                  |             |

4. Scheme of Sections : A:B:C:D
5. Scheme of Options : Internal Choice in long answer question i.e. essay type in two questions.
6. MCQ :- 1x18= 18, One Word Answer:- 1x12= 12, Fill in the blanks:- 1x10 = 10

Abbreviations: K (Knowledge), U(Understanding) A(Application) S( Skill)  
E (Essay Type), SA(Short Answer Type), VSA (Very Short Answer Type), O (Objective Type)

# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी

## Question paper Design 2020-21

Class: 12<sup>th</sup>

Subject: Accountancy

Books Name:

Session: 2020-21

Annual/Supplementary

Time:

2:30 hrs

Marks: 60

### 1 Weightage to Objectives

| Objective           | K  | U  | A  | S   | Total |
|---------------------|----|----|----|-----|-------|
| Percentage of marks | 10 | 40 | 50 | --- | 100   |
| Marks               | 06 | 24 | 30 | --- | 60    |

### 2 Weightage to Form of Questions

| Form of questions | E  | SA | VSA | Objective type | Total |
|-------------------|----|----|-----|----------------|-------|
| No. of Questions  | 01 | 01 | 10  | 30             | 42    |
| Marks allotted    | 06 | 04 | 20  | 30             | 60    |
| Estimated time    | 30 | 20 | 40  | 60             | 150   |

### 3 Weightage to content

|   | Marks | No of Questions | Total Marks |
|---|-------|-----------------|-------------|
| 1.Accounting for Not for Profit Organization            | 02    | 02              | 04          |
|   | 01    | 01              | 01          |
| 2.Partnership Accounting                                | 02    | 02              | 04          |
|   | 01    | 06              | 06          |
| 3.Reconstitution of Partnership (Admission, Retirement) | 06    | 01              | 06          |
|   | 01    | 09              | 09          |
| Part-B  |       |                 |             |
| 5.Company Accounting (issue of shares)                  | 04    | 01              | 04          |
|   | 02    | 04              | 08          |
|   | 01    | 07              | 07          |
| 6.Company Accounting (issue redemption of debentures)   | 02    | 02              | 04          |
|   | 01    | 07              | 07          |
| OR Part-C   |       |                 |             |
| 1. Computerized Accounting                              | 05    |                 | 05          |
| 2. Using Computers Accounting system                    | 06    |                 | 06          |
| 3.Using CAS and DBMS                                    | 04    |                 | 04          |
| 4.Accounting Using DBMS                                 | 08    |                 | 08          |
| 5.Accounting Application of Electronic spread sheets    | 07    |                 | 07          |

4 Scheme of Sections : A:B:C:D

5 Scheme of Options : Internal Choice in long answer question i.e. essay type in one questions

Abbreviations: K(Knowledge), U(Understanding), A(Application) S(Skill)  
E(Essay Type), SA(Short Answer), VSA(Very Short Answer), O(Objective type)



# हरियाणा विद्यालय शिक्षा बोर्ड, भिवानी

## Question paper Design 2020-21

Class: 12<sup>th</sup>

Session: 2020-21

Time: 2:30 hrs

Subject: Punjabi

Annual/Supplementary

Marks: 80

Books Name: काव कीरती

शोभा शक्ति

आधुनिक गद्य रत्नाकर

### 1 Weightage to Objectives

| Objective           | K  | C  | E  | A  | Total |
|---------------------|----|----|----|----|-------|
| Percentage of marks | 50 | 25 | 15 | 10 | 100   |
| Marks               | 40 | 20 | 14 | 06 | 80    |

### 2 Weightage to Form of Questions

| Form of questions | E  | SA | VSA | Objective type | Total |
|-------------------|----|----|-----|----------------|-------|
| No. of Questions  | 03 | 05 | 05  | 40             | 53    |
| Marks allotted    | 15 | 15 | 10  | 40             | 80    |
| Estimated time    | 35 | 40 | 35  | 40             | 150   |

### 3 Weightage to content:

#### Part-A( Marks)

| Reading Comprehension                       | Marks |                 |             |
|---|-------|-----------------|-------------|
|   | Marks | No of Questions | Total Marks |
| काव कीरती (संप्रसंग व्याख्या)               | 03    | 01              | 03          |
| काव कीरती (प्रश्न उत्तर)                    | 02    | 02              | 04          |
| काव कीरती (प्रश्न उत्तर) MCQ                | 01    | 05              | 05          |
| आधुनिक गद्य रत्नाकर (प्रश्न उत्तर)          | 03    | 01              | 03          |
| आधुनिक गद्य रत्नाकर (प्रश्न उत्तर)          | 02    | 02              | 04          |
| आधुनिक गद्य रत्नाकर (प्रश्न उत्तर) MCQ      | 01    | 05              | 05          |
| शोभा शक्ति (प्रश्न उत्तर)                   | 02    | 01              | 02          |
| शोभा शक्ति (प्रश्न उत्तर) MCQ               | 01    | 05              | 05          |
| अपठित गद्यांश                               | 05    | 01              | 05          |
| पंजाबी साहित्य का इतिहास (प्रश्न-उत्तर) MCQ | 01    | 05              | 05          |

#### Part-B( Marks)

| Writing Section                         | Marks |                 |             |
|---|-------|-----------------|-------------|
|   | Marks | No of Questions | Total Marks |
| काव कीरती (सार)                         | 03    | 01              | 03          |
| काव कीरती (प्रश्न उत्तर)                | 01    | 05              | 05          |
| आधुनिक गद्य रत्नाकर (सार)               | 03    | 01              | 03          |
| आधुनिक गद्य रत्नाकर (प्रश्न उत्तर)      | 01    | 05              | 05          |
| शोभा शक्ति (पात्र चित्रण)               | 05    | 01              | 05          |
| शोभा शक्ति (सार)                        | 03    | 01              | 03          |
| शोभा शक्ति (प्रश्न उत्तर)               | 01    | 05              | 05          |
| जीवनी (पंजाबी साहित्य का इतिहास)        | 05    | 01              | 05          |
| पंजाबी साहित्य का इतिहास (प्रश्न उत्तर) | 01    | 05              | 05          |

4 Scheme of Sections : A:B:C:D

5 Scheme of Options : Internal Choice in long answer question i.e. essay type questions

6 Difficulty level :  
Difficult: 10% Marks  
Average: 40% Marks  
Easy : 50% Marks

Abbreviations: K(Knowledge of element of language) C(Comprehension) E(Expression) A (Appreciation) E(Essay Type) SA(Short Answer) VSA(Very Short Answer)O(Objective type)



Class – XII  
Subject- Physics  
Syllabus

| Month     | Name of Book                   | Chapter & Topics   | Teaching Period | Revision period | Practical |
|-----------|--------------------------------|--|-----------------|-----------------|-----------|
| April     | Physics Class 12 <sup>th</sup> | Unit-1 Electrostatics<br>Chapter-1- Electric Charges Fields<br>Chapter-2- Electrostatic potential & capacitance  | 22              | 6               | 7         |
| May       | do                             | Unit-2 Current electricity<br>Unit-3 Magnetic effect of current<br>Chapter-4- Moving charges & Magnetism   | 14<br>8         | 4<br>2          | 14        |
| June      | Summer Vacation                |  |                 |                 |           |
| July      | do                             | Unit-3 Magnetic effect of current and magnetism<br>Chapter-5 Magnetism & matter<br>Unit-4 Electro magnetic Induction & Alternating current<br>Chapter-6 Electro magnetic Induction | 12<br>10        | 2<br>2          | 7<br>7    |
| August    | do                             | Unit-4 Electromagnetic Induction & Alternating current<br>Chapter-7 Alternating current<br>Unit-5 Electro magnetic waves   | 18              | 6               | 12        |
| September | do                             | Unit-6 Optics<br>Chapter-9 Ray optics & optical Instruments  | 18              | 2               | 6         |
| October   | do                             | Unit-6 Optics<br>Chapter- 10 Wave optics<br>Unit-7 Dual nature of matter & radiation   | 21              | 3               | 10        |
| November  | do                             | Unit-8 Atoms & nuclei  | 22              | 4               | 8         |
| December  | do                             | Unit-9 Electronic Devices  | 19              | 3               | 8         |
| January   |                                |  |                 |                 |           |
| February  |                                | Revision & practical Exam  |                 |                 |           |
| March     |                                | Exam   |                 |                 |           |



Class 12<sup>th</sup>  
Subject-Physics  
Syllabus

Unit :I : Electrostatics:

Chapter No.-One      April

Electric Charges and Fields:

Electric charge, conductors and insulators, Charging by conduction and induction, Basic properties of electric charges coulomb's Law-force between two point charges, forces between multiple charges , Superposition principle, Electric field, Electric field due to point charge, Electric field due to system of charges, Electric field lines and their general properties, Electric flux , Electric dipole, Field of an electric dipole on axial and equatorial line , Dipole in a uniform External field, Continuous Charge distribution, Torque on a dipole in Uniform Electric field, Potential Energy of dipole in Electric field.. Gauss's of Law, and its application to find field due to infinitely long straight wire ,field due to two parallel uniformly charged planesheets.

Chapter No.-Two April

Electrostatic potential and capacitance:

Electrostatic potential, potential due to a point charge, Potential due to an electric dipole and system of charges Equipotential of surfaces, Relation between field and potential, Potential Energy of system of two point charges in an external field, conductors, Electrostatic shielding, Dielectrics and polarization, Capacitors and Capacitance, The Parallel plate Capacitor, Effect of dielectrics on capacitance , Combination of Capacitors in series and in parallel, Energy stored in a capacitor.

Unit :II : Current Electricity:

Chapter No.-Three      May



## Current Electricity:

Electric Current, Flow of electric charge in a metallic conductor, Drift velocity, Mobility and their relation with Electric Current Ohm's Law, current density, electrical resistance, resistivity and conductivity. VI characteristics, Temperature dependence of resistivity, Electrical energy and power, Combination of resistors- Series and parallel, EMF, Internal resistance of a cell, potential Difference of a cell, Kirchhoff's Rules. Wheatstone Bridge, meter Bridge.

Potentiometer: Principle and its applications to measure potential difference and for comparing EMF of two cells, measurement of internal resistance of a cell.

### **June Summer Vacation**

## Unit :III : Magnetic Effects of Current and Magnetism: July Chapter No.-Four

### Moving Charges and Magnetism:

Magnetic force; Sources and field, oersted's experiments; concept of Magnetic field, Lorentz force

Magnetic field due to a current Element, Biot- Savart Law and its application to current carrying circular loop on its axis. Ampere's circuital Law and its application to infinitely long straight wire. The Solenoid and the toroid.

Force on moving charge in uniform magnetic and electric fields,

Force on a current carrying conductor in a uniform magnetic field, force between two parallel currents carrying conductors. Definition of ampere. Torque experienced by a current loop in uniform magnetic field. Magnetic dipole, current loop as a magnetic dipole, Magnetic moment of a revolving electron. The moving coil Galvanometer- its current sensitivity, and conversion to ammeter and voltmeter.

## Chapter No.-Five

### Magnetism and Matter:

The bar magnet, magnetic field lines, Bar magnet as an equivalent solenoid.



Earth" magnetic field, magnetic elements of earth

## Unit : IV : Electromagnetic Induction and Alternating Currents:

Chapter No.-Six      August

### Electromagnetic Induction:

Electromagnetic Induction, Magnetic flux, Faraday" Law of electromagnetic induction, Lenz's Law and conservation of energy, Motional Electromotive force, Eddy currents, -Self and mutual Induction- Self inductance of a long solenoid, A.C. Generator .

Chapter No.-Seven

### Alternating Current:

Alternating currents, peak and r.m.s. value of alternating current voltage, reactance and impedance, LC oscillation (qualitative treatment only), LCR series circuit, Resonance. Power in AC circuits ,

## Unit : V : Electromagnetic waves:

Chapter No.-Eight      August

### Electromagnetic waves:

Electromagnetic waves, and Characteristics of EMW, Transverse Nature of EMW(qualitative Ideas only) Electromagnetic Spectrum,(Radio waves, Microwaves, infrared visible, ultraviolet, X-rays, gamma rays). including elementary facts about their uses.

Unit : VI : Optics:      September

Chapter No.-Nine

### Ray optics and optical instruments:

Ray optics: , refraction of light, lateral shift of a ray refraction through a glass slab, real and apparent depth, Advance Sunrise and delayed sun set due to atmospheric refraction, Total internal reflection, and its applications, Optical fibre,

Mirage, Totally reflecting prism, Brilliancy of diamond, Refraction at convex spherical surfaces. Lenses, Refraction by a lens, Power of a lens, Combination of thin lenses and mirror in contact, lens formula lens maker's formula.

Refraction and Dispersion of light through a prism, Some Natural phenomena due to sunlight- The rainbow.

Optical instruments:- Microscopes and Astronomical telescopes(reflecting and refracting ) and their magnifying powers.

## Chapter No.-Ten    October

### Wave optics:

Wave front and Huygen's principle, refraction and reflection of plane waves at a plane surface using Huygens principle. Proof of law of reflection and refraction using Huygen's principle. Interference of light waves. Young's double slit experiment and expression for fringe width, Coherent Sources and sustained Interference of light. Diffraction, Diffraction due to a Single Slit width of Central maxima,

### Unit :VII : Dual Nature of Radiation and Matter:

## Chapter No.-Eleven

### Dual Nature of Radiation and Matter:

Dual Nature of radiation, photoelectric effect, Hertz, Hallwoch's and Lenard's sobservatin's effect of intensity of light on photo current, Effect of potential on photoelectric current, effect of frequency of incident radiation on stopping potential. Einstein's Photoelectric equation- particle Nature of light, photon Matter waves- Wave nature of particle , de Broglie relation,

### Unit : VIII : Atoms and nuclei:

## Chapter No.-Twelve

### Atoms:



Alpha- particle Scattering experiment. Rutherford's Model of atom, Drawbacks of Rutherford's Model. Bohr's Model of hydrogen atom- postulates, Bohr radius, Total Energy of electron in  $n$ th orbit. Energy levels of hydrogen atom The line spectra of hydrogen atom.

### Chapter No.-Thirteen

#### Nuclei:

Atomic masses & composition of Nucleus, Size of nucleus isotopes, isobars isotones, Nuclear fission and fusion.

### Unit : IX : Electronic Devices:

### Chapter No.-Fourteen

#### Semiconductor Electronics, Materials, Devices & Simple Circuits:

Energy bands in Conductors, Semiconductor & Insulators ( Qualitative Ideas only). Semiconductor diode-I-V Characteristics in Forward and reverse bias. Diode as full wave & half wave rectifier Special purpose p-n junction diodes-, LED, Photodiode, Solar Cell