



**D.A.V. PUBLIC SCHOOLS**  
**BIHAR ZONE - H**  
**SESSION : 2020-2021**

# **CURRICULUM GUIDELINES**

**CLASS - XII**

**D.A.V. CENTRE FOR ACADEMIC EXCELLENCE**  
(D.A.V. College Managing Committee)  
Chitra Gupta Road, New Delhi-110055

## **MID -TERM SYLLABUS (ONLINE EXAM), 2020 - 21**

<b><u>SECTION - A (READING)</u></b>	<b>[10 Marks]</b>
One passage of approx. Words 400.	
<b><u>SECTION - B (WRITING)</u></b>	<b>[08 Marks]</b>
Notice/ Advertisement/ Invitation and Reply.	(03 Marks)
Article/ Report / Letter to the Editor/ Application for job	(05 Marks)
<b><u>SECTION - C (LITERATURE)</u></b>	<b>[22 Marks]</b>
<b>Flamingo Prose Section</b>	
a) The Last Lesson	3 Periods
b) Lost Spring	
c) Deep Water <b>Poetry Section</b>	
a) My Mother At Sixty Six	
b) An Elementary School Classroom In A Slum	5 Periods
c) Keeping Quiet	
d) A Thing Of Beauty <b>Vistas</b>	
a) The Third Level	3 Periods
b) The Enemy	
c) Should Wizard Hit Mommy	

**SYLLABUS (ENGLISH)**  
**PRE -BOARD OFFLINE EXAMINATION, 2020-21**  
**FM: 80 MARKS**  
**PART -A (40 MARKS)**

**Reading Comprehension (20 Marks)**

- I. Multiple Choice questions based on one unseen passage to assess comprehension, interpretation and inference. Vocabulary and inference of meaning will also be assessed. The passage may be factual, descriptive or literary. Ten out of eleven questions to be done. **(10x1=10 Marks)**
- II. Multiple Choice questions based on one unseen **case-based** factual passage with verbal/visual inputs like statistical data, charts, newspaper report etc. Ten out of eleven questions to be done. **(10x1=10 Marks)**

**Note:** The combined word limit for both the passages will be 700-750 words.

**Literature (20 Marks)**

- III. Multiple Choice Questions based on two prose extracts, one each from the books **Flamingo and Vistas**, to assess comprehension and appreciation. Refer to the lines to answer questions based on the given extract. Any 2 out of 3 extracts to be done. **(8x1=8 Marks)**
- IV. Multiple Choice Questions based on a poetry extract from the book **Flamingo** to assess comprehension, analysis and inference. Refer to the lines to answer questions based on the given extract. Any 1 out of 2 extracts to be done. **(4x1=4 Marks)**
- VI. Text based questions to assess comprehension, analysis, inference and Interpretation from the books **Flamingo and Vistas**. Eight out of ten questions to be done. **(8x1=8 Marks)**

**PART- B (SUBJECTIVE QUESTIONS) - 40 MARKS**

**Writing Section: 16 Marks**

Q1. Short writing task – Notice / Advertisement up to 50 words. One out of the two given questions to be answered.

**(3 Marks: Format: 1/Content: 1/Expression: 1).**

Q2. Short writing task – Formal/ Informal Invitation and Reply up to 50 words. One out of the two given questions to be answered.

**(3 Marks: Format: 1/Content: 1/ Expression: 1)**

Q3. Letters based on verbal/visual input, to be answered in approximately 120-150 words. Letter types include application for a job, Letters to the editor (giving suggestions or opinion on issues of public interest) . One out of the two given questions to be answered.

**(5 Marks :Format: 1 / Content: 2 / Expression: 2)**

Q4. Article/ Report Writing, descriptive and analytical in nature, based on verbal inputs, to be answered in 120-150 words. One out of the two given questions to be Answered.

**(5 Marks: Format : 1 / Content : 2 / Expression : 2)**

**Literature Section: 24 Marks**

Q6. **Five** Short answer type question, **out of six, from Prose and Poetry from the book Flamingo**, to be answered in 30-40 words. Questions should elicit inferential responses through critical thinking.

**(5x2=10)**

Q7. **Two** Short answer type question , out of three, from **Prose (Vistas)**, to be Answered in 30-40 words. Questions should elicit inferential responses through critical thinking.

**(2x2=4)**

Q 8. **One** Long answer type question, from **Prose/poetry (Flamingo)**, to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points. Any 1 out of 2 questions to be done.

**(1 x 5 =5)**

Q.9. **One** Long answer type question, based on the chapters from the book **Vistas**, to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points. Any 1 out of 2 questions to be done.

**(1x5=5)**

**PRE - BOARD SYLLABUS**

**1. Flamingo**

**Prose Section**

- a) The Last Lesson
- b) Lost Spring
- c) Deep Water
- d) The Rattrap
- e) Indigo

**(Poetry Section):**

- a) My Mother at Sixty Six
- b) An Elementary School Classroom in a Slum
- c) Keeping Quiet
- d) A Thing Of Beauty
- e) Aunt Jennifer's Tiger

## 2. Vistas

- a. *The Third Level*
- b. *The Enemy*
- c. *Should Wizard Hit Mommy*
- d. *On the Face of It*
- e. *Evans Tries an o 'Level*

## **PATTERN FOR THE PRE BOARD ON LINE EXAMINATION (40 MARKS)**

### **SECTION - A READING (10 MARKS)**

One (factual/descriptive/ literary) passage of 400 words. **Ten** out of **eleven MCQ** to be answered. **10X1=10**

### **SECTION - B WRITING (08 MARKS)**

1. Notice/ Advertisement/ formal/ informal invitation and reply up to **50 Words**.  
**1 X3=3**
2. Article/ Report writing/ Letter to editor/ Application for a job up to **120 words**.  
**1X5=5**

### **SECTION -C LITERATURE (22 MARKS)**

- I. Extract: Poetry from **Flamingo**. MCQ **1 x 4= 4**
- II. Extract: Prose from **Vistas**. MCQ **1 x 4=4**
- III. **Five** short type questions out of **six** from prose and poetry to be answered from the book *Flamingo* in **30-40 words**. **5 x 2=10**
- IV. One long answer type question from the book *Vistas* to be answered in about **120-150 words**. **1 x 4=4**



**अप्रैल से सितम्बर**  
**मध्यावधि परीक्षा (२०२०-२०२१) का पाठ्यक्रम**  
**कक्षा - XII विषय - हिंदी**

**क) आरोह भाग-2**  
गद्य खंड

वर्ग की अवधियों की संख्या- 10

भक्तिन  
बाजार दर्शन  
काले मेघा पानी दे  
पहलवान की ढोलक  
**काव्य खंड**

वर्ग की अवधियों की संख्या- 10

एक गीत  
कविता के बहाने  
कैमरे में बंद अपाहिज  
सहर्ष स्वीकारा है  
उषा

**ख) वितान भाग- 2**

वर्ग की अवधियों की संख्या- 08

सिल्वर वैडिंग  
जूझ

**ग) अभिव्यक्ति और माध्यम**

वर्ग की अवधियों की संख्या- 08

अप्रत्याशित विषय पर रचनात्मक  
लेखन  
पत्र लेखन (औपचारिक)  
कविता/कहानी/नाटक की रचना प्रक्रिया  
समाचार लेखन, फीचर लेखन

**अक्टूबर से दिसम्बर**  
**वार्षिक परीक्षा (२०२०-२१) का पाठ्यक्रम**

**क) आरोह भाग -2**  
गद्य खंड

वर्ग की अवधियों की संख्या- 08

नमक  
श्रम - विभाजन और जाति प्रथा  
मेरी कल्पना का आदर्श समाज  
(मध्यावधि पाठ्यक्रम की पुनरावृत्ति)

**काव्य खंड**

वर्ग की अवधियों की संख्या- 08

कवितावली (उत्तर कांड से)  
लक्ष्मण मूर्च्छा और राम का विलाप  
रूबाइयां, गज़ल  
(मध्यावधि पाठ्यक्रम की पुनरावृत्ति)

**ख) विमान भाग - 2**

वर्ग की अवधियों की संख्या- 10

अतीत में दबे पांव  
डायरी के पन्ने  
(मध्यावधि पाठ्यक्रम की पुनरावृत्ति)

ग) अभिव्यक्ति और माध्यम  
आलेख लेखन, संपादकीय लेखन  
(मध्यावधि पाठ्यक्रम की पुनरावृत्ति)

वर्ग की अवधियों की संख्या- 08

# MATHEMATICS

BOOK RECOMMENDED: MATHEMATICS CLASS XII PART I and PART II (NCERT PUBLICATION)

**Full Marks** : Theory (80)+Internal (20)= **100 marks**.

## Unit-wise Marks Distribution

Unit	Topic	Marks
I	Relations and functions	08
II	Algebra	10
III	Calculus	35
IV	Vectors and 3 dimension	14
V	Linear Programming	05
VI	Probability	08
	<b>Total</b>	<b>80</b>

## QUESTION-WISE BREAK UP

Type of Question	Mark per Question	Total no. of Question	Total Marks
VSA	1	20	20
SA	2	6	12
LA I	4	6	24
LA II	6	4	24
<b>Total(Theory)</b>		<b>36</b>	<b>80</b>

<b>INTERNAL ASSESMENT</b>	<b>20 MARKS</b>
Periodic Test (Best 2 out of 3 tests conducted)	10 marks
Mathematics Activities	10 marks

However 33% internal choices will be given.

# First Unit Test (UPTO JULY)

Syllabus to be covered:50%

**Month : APRIL**

**Working days:(08)**

Topic to be taught: Unit I: 1 (a) Relations

Types of relations: reflexive, symmetric, transitive and equivalence relations.

**Month : MAY**

**Working days:(22)**

Topic to be taught: Unit I: 1(b) "FUNCTIONS

One to one and onto functions.

## **2.Inverse Trigonometric Functions**

(a) Definition, range, domain, principal value branch.

(b)Activity 1 and Activity 2 as per CBSE

**Month : JUNE**

**Working days:(16)**

Topic to be taught: Unit II Algebra:

### **(1)Matrices**

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices. Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non commutativity of multiplication of matrices. Invertible matrices (Here all matrices will have real entries)

### **(2)Determinant :**



Determinant of a square matrix (up to 3 x 3 matrices), Minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

(3) **ACTIVITY 3** as per CBSE guidelines.

(4) **one project work** as per guideline by CBSE.

<b>Month : JULY</b>
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<b>Working days:(14)</b>
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Topic to be taught: **UNIT III: Calculus**

(1)(a)**CONTINUITY AND DIFFERENTIALITY**

Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

(1)(b) **ACTIVITY 4** as per CBSE guidelines.

<b>Month : AUGUST</b>
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<b>Working</b>
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Topic to be taught: **Unit III**

**2(a) Applications of derivatives:**

Increasing/decreasing functions, tangents and normal, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

**2(b) ACTIVITY 5** as per CBSE guidelines . **2(c) Revision work** for first unit test examination

# HALF YEARLY (UPTO AUGUST)

Syllabus to be covered:60%

Month :AUGUST

Working days:(20)

Topic to be taught: **Unit III**

## 3(a)Integrals:

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation on simple integrals of the following types and problems base on them .

$$\int \frac{dx}{x^2 \pm a^2} \int \frac{dx}{\sqrt{x^2 \pm a^2}} \int \frac{dx}{\sqrt{a^2 \pm x^2}} \int \frac{dx}{ax^2+bx+c} \int \frac{dx}{\sqrt{ax^2+bx+c}} \int \frac{px+q}{ax^2+bx+c} dx$$
$$\int \frac{px+q}{\sqrt{ax^2+bx+c}} dx, \int \sqrt{a^2 \pm x^2} dx, \int \sqrt{x^2 \pm a^2} dx .$$

Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

3(b) ACTIVITY 6 and 7 as per CBSE guidelines.

Month :September

Working days:(24)

Topic to be taught: **Unit:III CALCULUS**

4(a) ACTIVITY 8 as per CBSE guidelines.

4(b) Revision for Half yearly/ Mid-term Exam based on CBSE Curriculum."

**Note: Syllabus for Half-yearly Examination: Syllabus covered from March to September.**

**BLUE PRINT (CBSE)**  
**CLASS XII MATHEMATICS 2020-21**  
**For Mid Term**

UNITS	TOPIC	OTQ(1)	SA-1(2)	SA-II(4)	LA(6)	TOTALS
RELATIONS AND FUNCTIONS (6 MARKS)	RELATIONS AND FUNCTIONS	1(1)		1(4)		2(5)
	INVERSE TRIG.FUNCTION	1(1)				1(1)
ALGEBRA (08 MARKS)	MATRICES	1(1)	1(2)			2(3)
	DETERMINANTS	1(1)		1(4)		2(5)
CALCULAS ( 26 MARKS)	DIFFERENTIATION	1(1)	1(2)			2(3)
	APPLICATION OF DIFFERENTIATION	1(1)			1(6)	2(7)
	INTEGRATION	2(2)	1(2)	1(4)		4(8)
	DEFINITE INTEGRAL	2(2)			1(6)	3(8)
					Total	18(40)

# PREBOARD (UPTO DECEMBER)

Syllabus to be Covered :100% till November

Month :October

Working days:(21)

Topic to be taught: Unit:III CALCULUS

## 4 Applications of the Integrals

Applications in finding the area under simple curves, especially lines, circles/parabolas/ellipses (in standard form only), Area between any of the two above said curves (the region should be clearly identifiable).

## 5(a) Differential Equation

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables solutions of homogeneous differential equations of first order and first

degree. Solutions of linear differential equation of the type:

$dy/dx + py = q$ , where  $p$  and  $q$  are functions of  $x$  or constants.

## Unit IV: Vectors and Three-Dimensional Geometry

### (1) VECTORS:

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), Position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

### (2) Three - dimensional Geometry

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Distance of a point from a plane.

(a) ACTIVITY 9 as per CBSE guidelines.

(b) Second project work as per CBSE guidelines.

**Month :November**

**Working days:(17)**

Topic to be taught: **Unit V: Linear Programming**

**Unit V: Linear Programming**

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P. problems, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints)

**Unit VI: Probability**

Conditional probability, multiplication theorem on probability. Independent events, total probability, Bayes' theorem, Random variable and its probability distribution,

ACTIVITY 10 as per CBSE guidelines.

**Month :December**

**Working days:(25)**

Topic to be taught:

- Revision for Pre- Board Examination 2020-2021.
- Discussion of Pre- Board question papers.
- Discussion of CBSE Sample Papers.

**Note: Syllabus for Pre board and Board: 100%**

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**BLUE PRINT (CBSE)**  
**CLASS XII MATHEMATICS 2020-21**  
**For Annual Examination**

UNITS	TOPIC	OTQ(1)	SA-1(2)	SA-II(4)	LA(6)	TOTALS
RELATIONS AND FUNCTIONS (8 MARKS)	RELATIONS AND FUNCTIONS	1(1)		1(4)		2(5)
	INVERSE TRIG.FUNCTION	1(1)	1(2)*			2(3)
ALGEBRA (10 MARKS)	MATRICES	3(3)				3(3)
	DETERMINANTS	1(1)			1(6)*	2(7)
CALCULAS ( 35 MARKS)	DIFFERENTIATION	1(1)	1(2)	1(4)*		3(7)
	APPLICATION OF DIFFERENTIATION	1(1)*	1(2)		1(6)*	3(9)
	INTEGRATION	4(4)		1(4)		5(8)
	APPLICATION OF INTEGRATION				1(6)	1(6)
	DIFFERENTIAL EQUATION	1(1)		1(4)		2(5)
VECTORS AND 3 D (14 MARKS)	VECTORS	2(2)*	1(2)*			3(4)
	3-D GEOMETRY	2(2)	1(2)		1(6)	4(10)
L.P.P. (5 MARKS)	LINEAR PROGRAMMING	1(1)		1(4)		2(5)
PROBABILITY (8 MARKS)	PROBABILITY	2(2)	1(2)	1(4)*		4(8)

**BLUE PRINT (CBSE)**  
**CLASS XII MATHEMATICS 2020-21**  
**For Annual Examination (ONLINE)**

Type of Question	Mark per Question	Total no. of Question	Total Marks
VSA	1	10	10
SA	2	3	06
LA I	4	3	12
LA II	6	2	12
<b>Total(Theory)</b>		18	<b>40</b>

**Important -**

**December - Revision**

**Jan- Pre-Board**

**Flowing by remedial tests upto Feb 2021**

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# PHYSICS

## CLASS XII (2020-21) (THEORY)

Time: 3 hrs.

Max Marks: 70

No. of Periods    Marks

Unit-I Electrostatics	23	16
Chapter-1: Electric Charges and Fields		
Chapter-2: Electrostatic Potential and Capacitance		
Unit-II Current Electricity	15	
Chapter-3: Current Electricity		
Unit-III Magnetic Effects of Current and Magnetism	16	17
Chapter-4: Moving Charges and Magnetism		
Chapter-5: Magnetism and Matter		
Unit-IV Electromagnetic Induction and Alternating Currents	19	
Chapter-6: Electromagnetic Induction		
Chapter-7: Alternating Current		
Unit-V Electromagnetic Waves	2	18
Chapter-8: Electromagnetic Waves		
Unit-VI Optics		
Chapter-9: Ray Optics and Optical Instruments	18	
Chapter-10: Wave Optics		
Unit-VII Dual Nature of Radiation and Matter	7	12
Chapter-11: Dual Nature of Radiation and Matter		
Unit-VIII Atoms and Nuclei		
Chapter-12: Atoms	11	
Chapter-13: Nuclei		
Unit-IX Electronic Devices	7	7
Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits		
	Total 118	70



## Chapter–1: Electric Charges and Fields

Electric Charges; Conservation of charge, Coulomb's law-force between two-point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet

## Chapter–2: Electrostatic Potential and Capacitance

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

## Unit II: Current Electricity

15 Periods

## Chapter–3: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity; temperature dependence of resistance. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's laws and simple applications, Wheatstone bridge, metre bridge(qualitative ideas only) Potentiometer - principle and its applications to measure potential difference and for comparing EMF of two cells; measurement of internal resistance of a cell(qualitative ideas only)

## Unit III: Magnetic Effects of Current and Magnetism

16 Periods

Chapter–4: Moving Charges and Magnetism Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight and toroidal solenoids (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

## Chapter–5: Magnetism and Matter

Current loop as a magnetic dipole and its magnetic dipole moment, magnetic dipole moment of a revolving electron, bar magnet as an equivalent solenoid, magnetic field lines; earth's magnetic field and magnetic elements.

## Unit IV: Electromagnetic Induction and Alternating Currents

19 Periods

## Chapter–6: Electromagnetic Induction

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction.

Chapter–7: Alternating Current Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits AC generator and transformer.

## Unit V: Electromagnetic waves

2 Periods

## Chapter–8: Electromagnetic Waves

Electromagnetic waves, their characteristics, their Transverse nature (qualitative ideas only).

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics 18 Periods

Chapter–9: Ray Optics and Optical Instruments Ray Optics: Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Chapter–10: Wave Optics

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light, diffraction due to a single slit, width of central maximum

## MID TERM UP TO AUGUST

Unit VII: Dual Nature of Radiation and Matter

7 Periods

## SEPTEMBER

Chapter–11: Dual Nature of Radiation and Matter Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect

Matter waves-wave nature of particles, de-Broglie relation

Unit VIII: Atoms and Nuclei 11 Periods

Chapter–12: Atoms

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Chapter–13: Nuclei Composition and size of nucleus Nuclear force Mass-energy relation, mass defect, nuclear fission, nuclear fusion.

## COCTOBER - NOVEMBER

Unit IX: Electronic Devices

7 Periods

Chapter–14: Semiconductor Electronics: Materials, Devices and Simple Circuits Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; Special purpose p-n junction diodes: LED, photodiode, solar cell.

PRACTICALS Total Periods: 32

The record to be submitted by the students at the time of their annual examination has to

include:

- Record of at least 8 Experiments [with 4 from each section], to be performed by the students.
- Record of at least 6 Activities [with 3 each from section A and section B], to be demonstrated by teacher

Evaluation Scheme

Time Allowed: Three hours

Max. Marks: 30

Two experiments one from each section

8+8 marks

Practical record [experiments and activities]

7 marks

Viva on experiments, and activities

7 marks

## SECTION-A

## Experiments

1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.

OR

To verify the laws of combination (series) of resistances using a metre bridge.

OR

To verify the laws of combination (parallel) of resistances using a metre bridge.

3. To compare the EMF of two given primary cells using potentiometer.

OR

To determine the internal resistance of given primary cell using potentiometer.

4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

OR

To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.

6. To find the frequency of AC mains with a sonometer.

## Activities

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

## SECTION-B

## Experiments

1. To find the focal length of a convex lens by plotting graphs between  $u$  and  $v$  or between  $1/u$  and  $1/v$ .
2. To find the focal length of a convex mirror, using a convex lens.

OR

To find the focal length of a concave lens, using a convex lens.

3. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.

4. To determine refractive index of a glass slab using a travelling microscope.
5. To find refractive index of a liquid by using convex lens and plane mirror.
6. To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.

#### Activities

1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
2. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.
3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two Polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

#### Practical Examination for Visually Impaired Students of Classes XI and XII Evaluation Scheme

Time Allowed: Two hours	Max. Marks: 30
Identification/Familiarity with the apparatus	5 marks
Written test (based on given/prescribed practicals)	10 marks
Practical Record	5 marks
Viva	10 marks
Total	30 marks

#### General Guidelines

- The practical examination will be of two hour duration.
- A separate list of ten experiments is included here.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes duration.
- The question paper given to the students should be legibly typed. It should contain a total of 15 practical skill based very short answer type questions. A student would be required to answer any 10 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question papers should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.

- Questions may be generated jointly by the external/internal examiners and used for assessment.
  - The viva questions may include questions based on basic theory/principle/concept, apparatus/materials/chemicals required, procedure, precautions, sources of error

Important -

December - Revision

Jan- Pre-Board

Following by remedial tests upto Feb 2021

## CHEMISTRY(THEORY)

### CLASS XII CHEMISTRY MID-TERM SYLLABUS (UPTO SEPTEMBER 20)

CHAPTERS	1 MARK QUES.	2 MARKS QUES.	3 MARKS QUES.	5 MARKS QUES.	TOTAL MARKNO. OF QUES.	NO. OF PERIODS
1.Solid State	1(1)		3(1)		4(2)	10
2.Solutions	1(1)	2(1)			3(2)	10
3.Electrochemistry	1(1)		* 3(1)		4(2)	9
4. p- Block Elements	1(2)			* 5(1)	7(3)	10
5. Coordination Chemistry	1(1)	* 2(1)			3(2)	10
6.Haloalkanes & Haloalkanes	1(1)		3(1)		4(2)	12
7. Alcohols, Phenols & Ethers	1(2)			* 5(1)	7(3)	12
8. Biomolecules	1(1)	2(1)			3(2)	10
<b>TOTAL</b>	<b>10(10)</b>	<b>6(3)</b>	<b>9(3)</b>	<b>10(2)</b>	<b>35(18)</b>	
<b>Star marked (*) questions have internal choice.</b>						

#### Unit I: Solid State

8 Periods

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects.

#### Unit II: Solutions

8 Periods

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties.

#### Unit III: Electrochemistry

7 Periods

Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis.

**Unit IV: Chemical Kinetics****5 Periods**

Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions).

**Unit V: Surface Chemistry****5 Periods**

Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, colloidal state: distinction between true solutions, colloids and suspension; lyophilic, lyophobic, multi-molecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation.

**Unit VII:p-Block Elements****7 Periods**

**Group -15 Elements:** General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid.

**Group 16 Elements:** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen: preparation, properties and uses, classification of Oxides, Ozone, Sulphur -allotropic forms; compounds of Sulphur: preparation properties and uses of Sulphur-dioxide, Sulphuric Acid:-properties and uses; Oxoacids of Sulphur (Structures only).

**Group 17 Elements:** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).

**Group 18 Elements:** General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

**Unit VIII: d and f Block Elements****7 Periods**

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation.

**Lanthanoids** - Electronic configuration, oxidation states and lanthanoid contraction and its consequences.

**Unit IX: Coordination Compounds****8 Periods**

Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT.

**Unit X: Haloalkanes and Haloarenes.****9 Periods**

**Haloalkanes:** Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.

**Haloarenes:** Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).

**Unit XI: Alcohols, Phenols and Ethers****9 Periods**

**Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration.

**Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

**Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.

**Unit XII: Aldehydes, Ketones and Carboxylic Acids****10 Periods**

**Aldehydes and Ketones:** Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.

**Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

**Unit XIII: Amines****7 Periods**

**Amines:** Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

**Unit XIV: Biomolecules****8 Periods**

**Carbohydrates** - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration

**Proteins** -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins.

**Nucleic Acids:** DNA and RNA.

**PRACTICALS**

Evaluation Scheme for Examination		Marks
Volumetric Analysis		08
Salt Analysis		08
Content Based Experiment		06
Project Work		04
Class record and viva		04
<b>Total</b>		<b>30</b>

**PRACTICAL SYLLABUS****36 Periods**

Micro-chemical methods are available for several of the practical experiments. Wherever possible, such techniques should be used.



## A. Chromatography

- i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.
- ii) Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in Rf values to be provided).

## A. Preparation of Inorganic Compounds

Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum.

Preparation of Potassium Ferric Oxalate.

## B. Tests for the functional groups present in organic compounds:

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

## C. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

## D. Determination of concentration/ molarity of $\text{KMnO}_4$ solution by titrating it against a standard solution of:

- i) Oxalic acid,
- ii) Ferrous Ammonium Sulphate

(Students will be required to prepare standard solutions by weighing themselves).

## E. Qualitative analysis

**Determination of one cation and one anion in a given salt.**

**Cation :**  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$

**Anions:**  $(\text{CO}_3)^{2-}$ ,  $\text{S}^{2-}$ ,  $(\text{SO}_3)^{2-}$ ,  $(\text{NO}_2)^-$ ,  $(\text{SO}_4)^{2-}$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $(\text{C}_2\text{O}_4)^{2-}$ ,  $\text{CH}_3\text{COO}^-$ ,  $\text{NO}_3^-$

**(Note: Insoluble salts excluded)**

## PROJECT

### Scientific investigations involving laboratory testing and collecting information from other sources

#### A few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

**Note:** Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

**Practical Examination for Visually Impaired Students of Classes XI and XII  
Evaluation Scheme**

Time Allowed: Two hours

Max. Marks:30

Identification/Familiarity with the apparatus	5 marks
Written test (based on given/prescribed practicals)	10 marks
Practical Record	5 marks
Viva	10 marks
<b>Total</b>	<b>30 marks</b>

**General Guidelines**

- The practical examination will be of two hour duration.
- A separate list of ten experiments is included here.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes duration.
  
- The question paper given to the students should be legibly typed. It should contain a total of 15 practical skill based very short answer type questions. A student would be required to answer any 10 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question papers should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.
- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory/principle/concept, apparatus/materials/ chemicals required, procedure, precautions, sources of error etc.

**A. Items for Identification/Familiarity of the apparatus for assessment in practical (All experiments)**

Beaker, glass rod, tripod stand, wire gauze, Bunsen burner, Whatman filter paper, gas jar, capillary tube, pestle and mortar, test tubes, tongs, test tube holder, test tube stand, burette, pipette, conical flask, standard flask, clamp stand, funnel, filter paper

Hands-on Assessment

- Identification/familiarity with the apparatus
- Odour detection in qualitative analysis

**B. List of Practical**

**The experiments have been divided into two sections: Section A and Section B. The experiments mentioned in Section B are mandatory.**

## SECTION- A

### A Chromatography

(1) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of  $R_f$  values (distance values may be provided).

### B Tests for the functional groups present in organic compounds:

- (1) Alcoholic and Carboxylic groups.
- (2) Aldehydic and Ketonic

### C Characteristic tests of carbohydrates and proteins in the given foodstuffs.

### D Preparation of Inorganic Compounds- Potash Alum

## SECTION-B (Mandatory)

### E Quantitative analysis

- (1) (a) Preparation of the standard solution of Oxalic acid of a given volume  
(b) Determination of molarity of  $\text{KMnO}_4$  solution by titrating it against a standard solution of Oxalic acid.
- (2) The above exercise [F 1 (a) and (b)] to be conducted using Ferrous ammonium sulphate (Mohr's salt)

### F Qualitative analysis:

- (1) Determination of one cation and one anion in a given salt. Cation  $-\text{NH}_4^+$   
Anions  $-\text{CO}_3^{2-}, \text{S}^{2-}, \text{SO}_3^{2-}, \text{Cl}^-, \text{CH}_3\text{COO}^-$   
(Note: Insoluble salts excluded)

**Note:** The above practicals may be carried out in an experiential manner rather than recording observations.

### Prescribed Books:

1. Chemistry Part -I, Class-XII, Published by NCERT.
2. Chemistry Part -II, Class-XII, Published by NCERT.

**BIOLOGY**  
**SYLLABUS & Typology of Questions paper**

**CLASS XII (2020 - 21) (THEORY)**

<b>Unit</b>	<b>Title</b>	<b>Marks</b>
<b>VI</b>	Reproduction	14
<b>VII</b>	Genetics and Evolution	18
<b>VIII</b>	Biology and Human Welfare	14
<b>IX</b>	Biotechnology and its Applications	12
<b>X</b>	Ecology and Environment	12
	<b>Total</b>	<b>70</b>

**MID-TERM SYLLABUS (APRIL-AUGUST)**

**Unit-VI Reproduction**

**Chapter-2: Sexual Reproduction in Flowering Plants**

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

**Chapter-3: Human Reproduction**

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

**Chapter-4: Reproductive Health**

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

**Unit-VII Genetics and Evolution**

**Chapter-5: Principles of Inheritance and Variation**

**Heredity and variation:** Mendelian inheritance; deviations from Mendelism – incomplete

dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in human being, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans -thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

#### **Chapter-6: Molecular Basis of Inheritance**

Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.

### **Unit-VIII Biology and Human Welfare**

#### **Chapter-8: Human Health and Diseases**

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

#### **Chapter-10: Microbes in Human Welfare**

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

### **PRE - BOARD SYLLABUS(OCTOBER-NOVEMBER)**

(Pre – Board Syllabus also includes Mid-Term Syllabus)

#### **Unit-IX Biotechnology and its Applications**

#### **Chapter-11: Biotechnology - Principles and Processes**

Genetic Engineering (Recombinant DNA Technology).

#### **Chapter-12: Biotechnology and its Application**

Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

### **Unit-X Ecology and Environment**

#### **Chapter-13: Organisms and Populations**

Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes -

growth, birth rate and death rate, age distribution.

Chapter-15: Biodiversity and its Conservation

Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

**PRACTICALS**

**Time allowed: 3 Hours**

**Max. Marks: 30**

Evaluation Scheme		Marks
One Major Experiment	5, 6	5
One Minor Experiment	2, 3	4
Slide Preparation	1, 4	5
Spotting		7
Practical Record + Viva Voce		4
Investigatory Project and its Record + Viva Voce	Credit to the students' work over the academic session may be given	5
<b>Total</b>		<b>30</b>

**A. List of Experiments**

1. Prepare a temporary mount to observe pollen germination.
2. Collect and study soil from at least two different sites and study them for texture, moisture content, pH and water holding capacity. Correlate with the kinds of plants found in them.
3. Collect water from two different water bodies around you and study them for pH, clarity and presence of any living organism.
4. Prepare a temporary mount of onion root tip to study mitosis.
5. Study the effect of different temperatures or three different pH on the activity of salivary amylase on starch.
6. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.

**B. Study/observation of the following (Spotting)**

1. Flowers adapted to pollination by different agencies (wind, insects, birds).
2. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
3. Meiosis in onion bud cell or grasshopper testis through permanent slides.
4. T.S. of blastula through permanent slides (Mammalian).
5. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
6. Common disease causing organisms like *Ascaris*, *Entamoeba*, *Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images. Comment on symptoms of diseases that they cause.
7. Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations.
8. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations.

**TPOLOGY OF QUESTIONS- (FOR ONLINE EXAMINATION)**

**CLASS XII (2020-2021)**

**F.M-35**

S.NO.	QUESTION TYPE	QUANTITY	MARKS
1.	M.C.Q	4	1X4=04
2.	SHORT ANSWER TYPE I	3	2X3=06
3.	SHORT ANSWER TYPE II	5	3X5=15
4.	LONG ANSWER	2	5X2=10

## **Accountancy Class XII**

### **MID TERM**

#### **Marks Distribution of up to August**

<b>UNITS</b>	<b>Name</b>	<b>Marks in 80</b>	<b>Marks in 40</b>	<b>Periods</b>
Unit 1	Accounting for NPO	10	07	20
Unit 2	Accounting for Partnership	30	20	55
Unit 3	Accounting for Companies	20	13	25

#### **TYOLOGY OF QUESTIONS: (40 Marks)**

<b>Marks</b>	<b>No of questions</b>	<b>Total marks</b>
1	12	12
3	02	06
4	02	08
6	01	06
8	01	08
	Total	40

#### **Marks Distribution (Blue Print)**

<b>UNITS</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>
Unit 1	--	3x1	4x1	--	--
Unit 2	1x8	--	4x1	--	8x1
Unit 3	1x4	3x1	--	6x1	--

### **PRE ANNUAL**

#### **Syllabus of Accountancy Class XII Upto November**

<b>UNITS</b>	<b>Name</b>	<b>Marks in 80</b>	<b>Periods</b>
Unit 3	Accounting for Companies (Debentures)	04	04
Unit 4	Analysis of Financial statements	30	20
Unit 5	Cash Flow Statements	20	12

Periodic Test Chapter wise will be conducted



## Class-XII

### (DELETED TOPIC)

#### Part A: Accounting for Not-for-Profit Organizations, Partnership Firms and Companies Unit 2: Accounting for Partnership Firms

Units/Topics
<b>Accounting for Partnership firms - Reconstitution and Dissolution.</b> <ul style="list-style-type: none"><li>● <b>Admission of a partner</b> - adjustment of capital accounts and preparation of balance sheet.</li><li>● <b>Retirement and death of a partner:</b> adjustment of capital accounts. Preparation of loan</li></ul>

#### Unit - 3 Accounting for Companies

Units/ Topics
<b>Accounting for Debentures</b> <ul style="list-style-type: none"><li>● Redemption of debentures-Methods: Lump sum, draw of lots.</li></ul>

#### Project Work:

**From session 2020-21 onwards, there would be only ONE project (specific) to be prepared.**

**Note:** Kindly refer to the related Guidelines published by the CBSE.

- **Since there is only one project instead of three hence 10 Lectures were reduced in the same.**

**Important -**

**December - Revision**

**Jan- Pre-Board**

**Flowing by remedial tests upto Feb 2021**

## **Business Studies Class XII**

### **MID TERM**

### **Marks Distribution of Upto August**

#### **BUSINESS STUDIES: XII**

<b>PART A: UNITS</b>	<b>NAME</b>	<b>Marks in 80</b>	<b>Marks in 40</b>	<b>Periods</b>
Unit 1	Nature and significance of Management	16 (Unit 1,2 & 3)	13	12
Unit 2	Principles of Management			10
Unit 3	Business Environment			04
Unit 4	Planning	14 (Unit 4&5)	11	06
Unit 5	Organising			08
Unit 6	Staffing	20(Unit 6,7& 8)	16	10
Unit 7	Directing			09
Unit 8	Controlling			07

#### **TYPOLOGY OF QUESTIONS: (40 Marks)**

<b>Marks</b>	<b>No of questions</b>	<b>Total marks</b>
1	10	10
3	02	06
4	02	08
5	02	10
6	01	06
	Total	40

#### **Marks Distribution (Blue Print)**

<b>Marks</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Unit 1	--	3x1		--	--
Unit 2	1x2	--	4x1	--	--
Unit 3	1x4	--	--	--	--
Unit 4	1x1	--	--	5x1	--
Unit 5	--	--	--	5x1	--
Unit 6	1x1	3x1	--	--	--
Unit 7	1x1	--	--	--	6x1
Unit 8	1x1	--	4x1	--	--

### **PRE ANNUAL**

### **Syllabus of Business Studies Class XII Upto November**

<b>PART B: UNITS</b>	<b>Name</b>	<b>Marks in 80</b>	<b>Periods</b>
Unit 9	Financial Management	15 (Unit 9 & 10)	10
Unit 10	Financial market		12
Unit 11	Marketing management	15(Unit 11 &12)	15
Unit 12	Consumer Protection Act		04

Periodic Test Chapter wise will be conducted

## **Business Studies (054) (DELETED TOPIC)**

### **Part A: Principles and Functions of Management**

<b>Unit</b>	<b>Topic deleted</b>
<b>Unit 3: Business Environment</b>	Demonetization - concept
	Impact of Government policy changes on business with special reference to liberalization, privatization and globalization in India
<b>Unit 4: Planning</b>	Single use and standing plans. Objectives, Strategy, Policy, Procedure, method Rule, budget and Programme
<b>Unit 5: Organising</b>	Topics Deleted
	Formal and informal organisation- concept
<b>Unit 6: Staffing</b>	Staffing as a part of Human Resource Management concept
<b>Unit 7: Directing</b>	barriers to effective communication, how to overcome the barriers
<b>Unit 8: Controlling</b>	Relationship between planning and controlling

### **Part B: Business Finance and Marketing**

<b>Unit</b>	<b>Topic deleted</b>
<b>Unit 11: Marketing</b>	Physical Distribution – components and channels of distribution
<b>Unit 12: Consumer Protection</b>	Consumer Protection: importance
	Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs)

**Important -**

**December - Revision**

**Jan- Pre-Board**

**Flowing by remedial tests upto Feb 2021**

# **Subject :- Economics**

## **Session -2020-21**

### **Syllabus for Mid- Term Examination for XII**

Syllabus for Mid Term Economics:XII (Upto September)

PART: A

INTRODUCTORY MACROECONOMICS:

Unit 1	National Income and Related Aggregates	- Marks 12 ( Periods-23)
Unit 2	Money And Banking:- Money- Meaning and Supply of Money,Currency held by the public and net demand deposits held by the commercial banks, Money creation by the commercial banking systems., Central banks and its functions-Bank of issue, Government Bank, Banker's Bank	Marks-08, Periods08

PART:B

INDIAN ECONOMIC DEVELOPMENT

Unit 6:	Development Experience (1947-90) and Economics Reforms since 1991- <b>11 Marks</b> (PERIODS-28)
Unit 7:	Current Challenges facing Indian Economy: <b>09 Marks</b> ( PERIODS-35) *Poverty *Rural Development : Key issue- credit and marketing role of cooperatives, agricultural diversification * Human Capital Formation- How people become resources, Role of human capital in economic Development.

TYPOLOGY of QUESTIONS:

Marks	No of questions	Total Marks
1	10	10
3	06	18
6	02	12
Total	18	40

Marks Distribution (Blue Print)

UNITS	1	3	6
Unit 1	1x3	3x1	6x1
Unit 2	1x2	3x2	--
Unit 6	1x2	3x1	6x1
Unit 7	1X3	3X2	--

**Pre Annual Syllabus (Upto November)**

PART: A

INTRODUCTORY MACROECONOMICS:

Unit 3	Determination of Income and Employment	22
Unit 4	Government Budget and the Economy	15
Unit 5	Balance of Payments	07

PART: B

INDIAN ECONOMIC DEVELOPMENT

Unit 7:	Current Challenges facing Indian Economy (Continued) Employment Infrastructure Sustainable Economic Development	35
Unit 8	Development Experience of India- A Comparison With neighbours	12

**ECONOMICS CLASS - XII (2020-21)**

**Theory: 80 Marks**

**3 Hours**

**Project: 20 Marks**

<b>Units</b>		<b>Marks</b>	<b>Periods</b>
<b>Part A</b>	<b>Introductory Macroeconomics</b>		
	National Income and Related Aggregates	10	23
	Money and Banking	6	8
	Determination of Income and Employment	12	22
	Government Budget and the Economy	6	15
	Balance of Payments	6	7
		<b>40</b>	<b>75</b>
<b>Part B</b>	<b>Indian Economic Development</b>		
	Development Experience (1947-90) and Economic Reforms since 1991	12	28
	Current Challenges facing Indian Economy	22	35
	Development Experience of India – A Comparison with Neighbours	06	12
	<b>Theory Paper (40+40 = 80 Marks)</b>	<b>40</b>	<b>75</b>
<b>Part C</b>	<b>Project Work</b>	<b>20</b>	<b>15</b>

## **Part A: Introductory Macroeconomics**

### **Unit 1: National Income and Related Aggregates**

**23 Periods**

What is Macroeconomics?

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.

GDP and Welfare

### **Unit 2: Money and Banking**

**8 Periods**

Money - meaning and supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit

### **Unit 3: Determination of Income and Employment**

**22 Periods**

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal).

Short-run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them -

changes in government spending, taxes and money supply through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

#### **Unit 4: Government Budget and the Economy**

**15 Periods**

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipts and capital receipts; classification of expenditure – revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

#### **Unit 5: Balance of Payments**

**7 Periods**

Balance of payments account - meaning and components;

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

### **Part B: Indian Economic Development**

#### **Unit 6: Development Experience (1947-90) and Economic Reforms since 1991:**

**28 Periods**

A brief introduction of the state of Indian economy on the eve of independence.

Indian economic system and common goals of Five Year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

##### **Economic Reforms since 1991:**

Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);

Concepts of demonetization and GST

#### **Unit 7: Current challenges facing Indian Economy**

**35 Periods**

**Poverty**- absolute and relative; Main programmes for poverty alleviation: A critical assessment;

**Human Capital Formation:** How people become resource; Role of human capital in economic development;

**Rural development:** Key issues - credit and marketing - role of cooperatives;

agricultural diversification;

**Employment:** Growth and changes in work force participation rate in formal and informal sectors; problems and policies

**Infrastructure:** Meaning and Types: Case Studies: Health: Problems and Policies- A critical assessment;

**Sustainable Economic Development:** Meaning, Effects of Economic Development on Resources and Environment, including global warming

**Unit 8: Development Experience of India:**

**12 Periods**

A comparison with neighbours

India and Pakistan

India and China

Issues: economic growth, population, sectoral development and other Human

Development Indicators

**Part C: Project in Economics**

**15 Periods**

**Prescribed Books:**

1. Statistics for Economics, NCERT
2. Indian Economic Development, NCERT
3. Introductory Microeconomics, NCERT
4. Macroeconomics, NCERT
5. Supplementary Reading Material in Economics, CBSE



**Suggested Question Paper**  
**Design Economics (Code**  
**No. 030)**  
**Class XII (2020-21)**

**March 2021 Examination**

**Marks: 80**  
**hrs.**

**Duration: 3**

<b>SN</b>	<b>Typology of Questions</b>	<b>Marks</b>	<b>Percentage</b>
1	<b>Remembering and Understanding:</b> Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
2	<b>Applying:</b> Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	18	22.5%
3	<b>Analysing, Evaluating and Creating:</b> Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	18	22.5%
<b>Total</b>		<b>80</b>	<b>100%</b>

CLASS - XII

Part A: Introductory Macroeconomics

<b>Unit</b>	<b>Topics Deleted</b>
<b>Unit 2: Money and Banking</b>	Control of Credit through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.
<b>Unit 5: Balance of Payments</b>	Balance of payments deficit-meaning. Determination of exchange rate in a free market.

Part B: Indian Economic Development

<b>Unit</b>	<b>Topics Deleted</b>
<b>Unit 7: Current challenges facing Indian Economy</b>	Growth of Education Sector in India alternative farming - organic farming  <b>Infrastructure:</b> Energy

# DAV Public Schools Bihar Zone B

Class XII

Physical Education

Syllabus & Typology of Question papers (Mid Term & Annual Exam 2020-21)

Mid- Term Syllabus (On line Exam)

## UNIT I Planning in Sports

S.No	Chapter's Name	No of Periods
1	Meaning & Objective of Planning	05
2	Various Committees & Its Responsibilities (Pre: during & post)	
3	Tournament – Knock-Out, League, Or Round Robin & Combination	
4	Procedure to Draw Fixtures- Knock Out ( Bye & Seeding) & League ( Staircase & Cyclic)	

## UNIT II: Sports & Nutrition

S.No	Chapter's Name	No of Periods
1	Balanced Diet & Nutrition: Macro & Micro Nutrients	04
2	Nutritive & Non-Nutritive Components of Diet	
3	Eating For Weight Control – A healthy Weight, The Pitfalls of Dieting, Food Intolerance & Food Myths	

## UNIT III: Yoga & Lifestyle

S.No	Chapter's Name	No of Periods
1	Asanas As Preventive Measures	03
2	Obesity Procedure, Benefits & Contraindication for Vazrasan, Hastasana, Trikonasana, ArdhMatsyendrasana	
3	Dubieties Procedure, Benefits & Contraindication for BhujjangAsana, Paschimottsanan , Pawanmuktasna, Ardhmatsyendraasana	
4	Asthama Procedure, Banefits & Contraindication for Sukhasna , Chakraasana, Gomukhasana, Parvatasana, Bhujangasana, Pashchimotasna, Matsyasana	
5.	Hypertension : Tadasana, Vajrasana, Pawanmuktasna, Ardhchakrasana,Bhujangasana, Sawasana	

## UNIT IV: Physical Education and Sports for CWSN (Divyang)

S.No	Chapter's Name	No of Periods
1	Concept of Disability and Disorder	6
2	Types of Disability, Its causes and nature(Cognitive disability, Intellectual disability, Physical Disability)	
3	Types of Disorder, Its Causes and Nature (ADHD, SPD, ASD, ODD, OCD)	
4	Disability Etiquettes	
5	Strategies to make physical activities assessable for children with special needs	

## UNIT V: Children and Women in Sports

S.No	Chapter's Name	No of Periods
1	Motor development & factors affecting it	3
2	Exercise guidelines at different stages of growth and development	
3	Common postural deformities – Knock Knee, Flat Foot, Round Shoulders, Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures	
4	Sports participation of Women in India	

**UNIT VI: Test & Measurement in Sports**

S.No	Chapter's Name	No of Periods
1	Motor Fitness Test- 50 Mtr standing start, 600 Mtr Run/Walk, Sit & Reach, Partial Curl Up, Push Ups(Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility- 4 X 10 Mtr Shuttle Run	4
2	Measurement of Cardio Vascular Fitness- Harward Step Test/ Rockport Test- Computation of fitness Index :- <u>Duration of the exercise in seconds X 100</u> 5.5 X Pulse count of 1-1.5 Min after Exercise	
3	Rikli & Jones- Senior Citizen Fitness Test i. Chair stand test for lower body strength ii. Arm curl Test for upper body strength iii. Chair sit and reach test for upper body flexibility iv. Back scratch test for upper body flexibility v. Eight foot up & go test for agility vi. 6 min walk test for aerobic endurance	

Sr. No.	Competencies	Objective Types/MCQ 1 Mark	Short Answer – I 3 Marks	Short Answer – II 5 Marks	Marks
1	<b>Remembering:</b> Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers.	3	2	1	14
2	<b>Understanding:</b> Demonstrating understanding of facts and ideas by organizing, translating, interpreting, giving descriptions and stating main ideas.	3	2	0	09
3	<b>Applying:</b> Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	3	1	0	06
4	<b>Formulating, Analysing, Evaluating &amp; Creating:</b> Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.	3	1	-	06
<b>TOTAL</b>		<b>12x1=12</b>	<b>6x3=18</b>	<b>1x5=05</b>	<b>35(19)</b>

**Pre -Annual Examination Syllabus**
**UNIT VII: Physiology and Injuries in Sports**

S.No	Chapter's Name	No of Periods
1	Physiological factors determining component of Physical Fitness	

2	Effects of exercise on Cardio Respiratory system	6
3	Effects of exercise on muscular system	
4	Sports injuries, Classification {Soft tissue injury(Abrasion, Contusion, Laceration, Incision, Sprain & Strain); Bone and Joint Injuries:(Dislocation, Fractures, Stress fractures, Green Stick, Communated, Transverse Oblique and impacted) Causes, Prevention and treatment	
5	First Aid- Aims and Objectives	

#### UNIT VIII: Biomechanics and Sports

S.No	Chapter's Name	No of Periods
1	Meaning and importance of Biomechanics in Sports	2
2	Types of movements (Flexion, Extension, Abduction & Adduction)	
3	Newton Laws of Motion and its application in Sports	

#### UNIT IX: Psychology and Sports

S.No	Chapter's Name	No of Periods
1	Personality, Its definition and types- traits and types(Sheldon & Jung Classification) & Big five theory	4
2	Motivation, its types & Technique	
3	Meaning, concept and types of aggressions in sports	

#### UNIT X: Training in Sports

S.No	Chapter's Name	No of Periods
1	Strength- Definition, types & methods of improving strength- isometric, isotonic & isokinetic	5
2	Endurance- Definition, types and methods of develop Endurance – Continuous training, interval training & fartlek training	
3	Speed- Definition, types and methods to develop speed – Acceleration Run & Pace Run	
4	Flexibility- Definition, types and methods to improve flexibility	
5	Coordinative Abilities- Definition & Types	

**PHYSICAL EDUCATION (CODE NO. 048)**  
**QUESTION PAPER DESIGN CLASS - XII (2020-21)**

Sr. No.	Competencies	Objective Types/MCQ 1 Mark	Short Answer – I 3 Marks	Short Answer – II 5 Marks	Marks
1	<b>Remembering:</b> Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers.	5	3	2	24
2	<b>Understanding:</b> Demonstrating understanding of facts and ideas by organizing, translating, interpreting, giving descriptions and stating main ideas.	5	3	1	19
3	<b>Applying:</b> Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	5	2	1	16
4	<b>Formulating, Analysing, Evaluating &amp; Creating:</b> Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.	5	2	-	11
	<b>TOTAL</b>	<b>20x1=20</b>	<b>10x3=30</b>	<b>4x5=20</b>	<b>70(34)</b>

There will be Internal Choice in questions of 1 Mark (4 Choices), 3 Marks (3 Choices) and 5 Marks (2 Choices). In all, Total 9 internal choices.

**BIHAR ZONE - B**  
**Mid – Term Syllabus of I.P (065)**  
**Class – XII**

<b>INFORMATION TECHNOLOGY (402)</b>	<b>Chapter Name</b>	<b>Marks(50)/Number of Questions</b>
	<b>MID TERM APRIL TO AUGUST</b> <b>Unit - 1</b> <b>1. Data Handling using Pandas and Data visualization</b> (Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and Data Frames. Series: Creation of Series from – ndarray, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing and Slicing.) Data Frames: creation - from dictionary of Series, list of dictionaries, Text/CSV files; display; iteration; Operations on rows and columns: add, select, delete, rename; Head and Tail functions; Indexing using Labels, Boolean Indexing; 2. Data Visualization (introduction)	<b><u>20 Marks</u></b> MCQ – 10 (1 Mark Each) One Word – 6 (1 Mark Each) Short A/Q – 2 (2 Marks Each)
	<b>ANNUAL/ PRE- BOARD SEPTEMBER TO NOVEMBER</b> <b>-Pre- Board syllabus also include Mid- Term Syllabus</b> <b>Unit 2:</b> Database Query using SQL Math functions: POWER (), ROUND (), MOD (). Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*).	<b><u>20 Marks</u></b> MCQ – 10 (1 Mark Each) One Word – 6 (1 Mark Each) Short A/Q – 2 (2 Marks Each)
<b>Unit 3: Introduction to Computer Networks</b>	<b><u>10 Marks</u></b> MCQ – 10 (1 Mark Each) One Word – 6 (1 Mark Each)	

		Short A/Q – 2 (2 Marks Each)

### 3. Distribution of Marks and Periods

Unit No	Unit Name	Marks
1	Data Handling using Pandas and Data Visualization	25
2	Database Query using SQL	25
3	Introduction to Computer Networks	10
4	Societal Impacts	10
	Project	-
	Practical	30
	Total	100



**Practical Marks Distribution**

<b>S.No.</b>	<b>Unit Name</b>	<b>Marks</b>
1	Programs using Pandas and Matplotlib	8
2	SQL Queries	7
3	Practical file (minimum of 15 programs based on Pandas, 4 based on Matplotlib and 15 SQL queries must be included)	5
4	Project Work (using concepts learned in class XI and XII)	5
5	Viva-Voce	5
	TOTAL	30