

SUBJECT: ARTIFICIAL INTELLIGENCE**Class XI TOTAL Theory MARKS: 70**

- Class XI SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Unit	Topic	Marks allotted
1	Computer Fundamentals	15X1=15
2	Introduction to Python Programming	15X1=15
3	Introduction to Linear Algebra	5X1=5

- Class XI SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

Unit	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4/5 marks)	TOTAL
4 : Foundation of AI & Search as optimization	1X2=2	2X5=10 2X3=6	18
5: Knowledge representation and reasoning	3X2=6	1X4=4	10
6: Uncertainty Management	-	1X5=5	05
7: Preliminary Concept of Chatbots	1X2=2 2	-	02
TOTAL	10	25	35

Class XII TOTAL Theory MARKS: 70

- Class XII SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Unit	Topic	Marks allotted
1	Foundation of Statistics for Machine Learning	5X1=5
2	Introduction to Machine Learning	15X1=15
3	Supervised Learning	15X1=15

- Class XII SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

Unit	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4/5 marks)	TOTAL
4 : Unsupervised Learning	3X2=6	3X3=9	15
5: Artificial Neural Network	2X2=4	2X5=10 1X3=3	17
6: Ethics in AI	-	1X3=3	03
TOTAL	10	25	35

SUBJECT: BIOLOGICAL SCIENCE
Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 mark per question]

Sl No	Topic	Marks allotted
1	Unit I : Diversity of Living Organism Chapter 1 : The Living World Chapter 2 : Biological Classification Chapter 3 : Animal Kingdom	8X1=8
2	Unit II : Structural Organizations in Plants and Animals Chapter 5 : Morphology of Flowering Plants Chapter 6 : Anatomy of Flowering Plants Chapter 7 : Structural Organization in Animals	12X1=12
3	Unit III : Cell Structure and Functions Chapter 8 : Cell- The Unit of Life Chapter 9 : Biomolecules Chapter 10 : Cell Cycle and Cell Division	15X1=15

- **Class XI SEMESTER 2 TOPICS:** [SAQ,LAQ] MARKS: 35

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	Competency based QUESTIONS (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit IV : Plant Physiology Chapter 11 : Photosynthesis in Higher Plants Chapter 12 : Respiration in Plants Chapter 13 : Plant- Growth and Development	2X2=4	3X3=9	1X4=4	-	17
Unit V : Human Physiology Chapter 14 : Digestion and Absorption Chapter 15 : Breathing and Exchange of Gases Chapter 16 : Body Fluids and Circulation Chapter 17 : Excretory Products and their elimination Chapter 18 : Locomotion and Movement Chapter 19 : Neural Control and Coordination Chapter 20 : Chemical Coordination and Integration	2X2=4	3X3=9	-	1X5=5	18
TOTAL	08	18	04	05	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 mark per question]**

SI No	Topic	Marks allotted
1	Unit VI : Reproduction Chapter 1 : Sexual Reproduction in Flowering Plants Chapter 2 : Human Reproduction Chapter 3 : Reproductive Health	15X1=15
2	Unit VII : Genetics and Evolution Chapter 4 : Principles of Inheritance and Variation Chapter 5 : Molecular basis of inheritance Chapter 6 : Evolution	20X1=20

- **Class XII SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	Competency based QUESTIONS (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit VIII : Biology and Human Welfare Chapter 7 : Human Health and Diseases Chapter 8 : Improvement in food production Chapter 9 : Microbes in Human Welfare	2X2=4	2X3=6	-	-	10
Unit IX : Biotechnology and its application Chapter 10 : Biotechnology and its application	1X2=2	2X3=6	1X4=4	-	12
Unit X : Ecology and Environment Chapter 11 : Organisms and Populations Chapter 12 : Ecosystem Chapter 13 : Biodiversity and its conservation Chapter 14 : Environmental issues	1X2=2	2X3=6	-	1X5=5	13
TOTAL	08	18	04	05	35

SUBJECT: Chemistry
Class XI TOTAL Theory MARKS: 70

- Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Some Basic Concepts of Chemistry	3X1=3
2	Structure of Atom	6X1=6
3	Classification of elements and periodicity in properties	4X1=4
4	Chemical Bonding & Molecular structure	6X1=6
5	States of Matter: Solids & Gases	4X1=4
6	s-block elements	5X1=5
7	Some p-block elements	7X1=7

- Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Thermodynamics	1X2=2	-	1X5=5	07
Equilibrium	-	2X3=6	-	06
Redox Reactions	-	1X3=3	-	03
Organic Chemistry : some basic principles	1X2=2	-	1X5=5	07
Hydrocarbons	1X2=2	2X3=6	-	08
Environment Chemistry	2X2=4	-	-	04
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Liquid State	8X1=8
2	p-block elements	8X1=8
3	Haloalkanes and Haloarenes	5X1=5
4	Alcohols, Phenols and Ethers	5X1=5
5	Biomolecules : Carbohydrates , Proteins and Nucleic Acids	5X1=5
5	Polymers	4X1=4

- Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Electrochemistry	1X2=2	1X3=3	-	05
Chemical Kinetics	1X2=2	-	1X5=5	07
d and f block elements	-	2X3=6	-	06
Co-ordination compounds	1X2=2	1X3=3	-	05
Aldehydes , Ketones and Carboxylic acids	-	-	1X5=5	05
Organic compounds containing Nitrogen	2X2=4	1X3=3	-	07
TOTAL	10	15	10	35

SUBJECT:COMS

CLASS XI TOTAL THEORY MARKS:70

- CLASS XI SEMESTER I TOPICS: (MCQ) MARKS: 35 1 MARKS PER QUESTION

SI No	Topic	Marks obtain
1.	Computer System and Organisation	15X1=15
2.	Programming Fundamentals	10X1=10
3.	Introduction to C	10X1=10

- CLASS XI SEMESTER II TOPICS: (Short Answer Questions, Descriptive Questions) MARKS:35

TOPIC	Short Answer Type Questions (2 Marks)	Short Answer Type Questions (3 Marks)	Descriptive Type Questions (5 Marks)	Total
Data Structure	1X2=2	1X3=3	2X5=10	15
Computer networks	1X2=2	1X3=3	1X5=5	10
Ethics	1X2=2	1X3=3	1X5=5	10
TOTAL:	6	9	20	35

CLASS XII TOTAL THEORY MARKS:70

- CLASS XI SEMESTER I TOPICS: (MCQ) MARKS: 35 1 MARKS PER QUESTION

SI No	Topic	Marks obtain
1.	Python Programming	25X1=25
2.	E-Commerce	10X1=10

- CLASS XI SEMESTER II TOPICS: (Short Answer Questions, Descriptive Questions) MARKS:35

TOPIC	Short Answer Type Questions (2 Marks)	Short Answer Type Questions (3 Marks)	Descriptive Type Questions (5 Marks)	Total
Data Base Management System	1X2=2	1X3=3	3X5=15	20
Foundation of Artificial Intelligence	1X2=2	1X3=3	2X5=10	15
TOTAL:	4	6	25	35

SUBJECT: DATA SCIENCE

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Unit	Topic	Marks allotted
1	Computer Fundamentals	15X1=15
2	Introduction to Python Programming	15X1=15
3	History of AI and Introduction to Linear Algebra	5X1=5

- **Class XI SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

Unit & TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
4: History of Data Science and Statistics	2X2=4	2X3=6 1X5=5	15
5 : Data Visualization	2X2=4	2X3=6	10
6 : Database Management	-	1X5=5	05
7 : Basics of Business Theory	1X2=2	1X3=3	05
TOTAL	10	25	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Unit	Topic	Marks allotted
1	Foundation of Statistics for Machine Learning	5X1=5
2	Introduction to Machine Learning	15X1=15
3	Supervised Learning	15X1=15

- **Class XII SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

Unit & TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
4 : Decision Tree Learning and Unsupervised Learning	1X2=2	1X3=3 1X5=5	10
5 : Data Visualization Technique	2X2=4	2X3=6	10
6 : Artificial Neural Network	2X2=4	2X3=6	10
7 : Case Studies in Data Science	-	1X5=5	05
TOTAL	10	25	35

SUBJECT: Mathematics

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS:** [MCQ] MARKS: 40 [1 MARK PER QUESTION]

Sl No	Topic	Marks allotted
1	Sets , Relation and Functions , Trigonometric Functions	15X1=15
2	Algebra : Complex Numbers and Quadratic Equations, Linear Inequations , Permutations and Combinations	15X1=15
3	Calculus : Limit and Derivatives	10X1=10

- **Class XI SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 40

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Principle of Mathematical Induction	-	1X3=3	03
Binomial Theorem	1X2=2 [one alternative]	1X4=4	06
Sequence and Series	1X2=2	1X4=4 [one alternative]	06
Coordinate Geometry	2X2=4 [one alternative]	1X3=3 2X4=8 [one alternative with 4 mark question]	15
Statistics	-	1X3=3 [one alternative]	03
Probability	2X2=4 [one alternative]	1X3=3	07
TOTAL	12	28	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS:** [MCQ] MARKS: 40 [1 MARK PER QUESTION]

Sl No	Topic	Marks allotted
1	Relations and Functions , Inverse Trigonometric Functions	7X1=7
2	Algebra : Matrices and Determinants	10X1=10
3	Calculus : Continuity & Differentiability , Application of Derivatives	15X1=15
4	Probability	8X1=8

- **Class XII SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 40

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Vectors	1X2=2	1X3=3 [one alternative]	05
Three-Dimensional Geometry	1X2=2 [one alternative]	2X4=8 [one alternative]	10
Integrals	1X2=2	1X3=3 1X4=4 [one alternative with 4 mark question]	09
Application of Integrals	1X2=2 [one alternative]	1X4=4	06
Differential Equation	1X2=2	1X3=3 [one alternative]	05
Linear Programming	1X2=2 [one alternative]	1X3=3	05
TOTAL	12	28	40

SUBJECT: PHYSICS**Class XI TOTAL Theory MARKS: 70**

- Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Physical World & Measurement	3X1=3
2	Kinematics	12X1=12
3	Laws of Motion	8X1=8
4	Work , Energy , Power	5X1=5
5	Motion of System of particles & Rigid body	7X1=7

- Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
1. Gravitation	1X2=2	1X3=3	-	05
2. Properties of Bulk matter	1X2=2	1X3=3	1X5=5	10
3. Thermodynamics	1X2=2	1X3=3	-	05
4. Behaviour of perfect gases and Kinetic Theory	1X2=2	1X3=3	-	05
5. Oscillation & Wave	1X2=2	1X3=3	1X5=5	10
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Sl No	Topic	Marks allotted
1	Electrostatics	8X1=8
2	Current Electricity	8X1=8
3	Magnetic Effect of Current	8X1=8
4	Electromagnetic Induction	8X1=8
5	Electromagnetic Waves	3X1=3

- Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
1. Optics	3X2=6	1X3=3	1X5=5	14
2. Dual Nature of Matter	2X2=4	-	-	04
3. Atomic Nuclei	-	2X3=6	-	06
4. Electronic Device	-	1X3=3	1X5=5	08
5. Communication	-	1X3=3	-	03
TOTAL	10	15	10	35

SUBJECT: Statistics

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Sl No	Topic	Marks allotted
1	Unit 1	10X1=10
2	Unit 2	6X1=6
3	Unit 3	12X1=12
4	Unit 4	3X1=3
5	Unit 5	4X1=4

- **Class XI SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1	1X2=2	1X3=3	1X5=5	10
Unit 2	-	2X3=6	-	06
Unit 3	2X2=4	1X3=3	1X5=5	12
Unit 4	-	1X3=3	-	03
Unit 5	2X2=4	-	-	04
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS:** [MCQ] MARKS: 35 [1 MARK PER QUESTION]

Sl No	Topic	Marks allotted
1	Unit 1	6X1=6
2	Unit 2	10X1=10
3	Unit 3	12X1=12
4	Unit 4	2X1=2
5	Unit 5	5X1=5

- **Class XII SEMESTER 2 TOPICS:** [Short Answer Questions , Descriptive Questions] MARKS: 35

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1	1X2=2	1X3=3	1X5=5	10
Unit 2	1X2=2	-	1X5=5	07
Unit 3	1X2=2	1X3=3	-	05
Unit 4	1X2=2	-	-	02
Unit 5	-	1X3=3	-	03
Unit 6	1X2=2	1X3=3	-	05
Unit 7	-	1X3=3	-	03
TOTAL	10	15	10	35