

1. "Nanotechnology plays by different rules." Explain this statement.

10th science

OR

1. Name important areas related to nanotechnology. (July 14)

2. Give definition of electric current and define its unit. (March 14, July 15)

3. Explain briefly : Coal tar and Coal gas (March 14)

OR

3. Write two points of differences : Lignite and Anthracite

4. Draw a labelled diagram showing the internal structure of human heart.

5. Define food chain and food web.

SECTION B

Answer the following questions in short (within the limit of 30 words) :
[2 marks each] 10

6. What are terrestrial plants? Mention the common characteristics of them.

(March 14)

7. Explain thigmonasty in the leaf of 'Mimosa Pudica' (touch-me-not) plant.

8. Explain : Strong base and Weak base

9. Write a short note on Heredity. (March 13, 15)

OR

9. In what way homologous organs give evidence for evolution? (July 13, March 16)

10. What are the consequences of loss of forest cover? (July 14)

SECTION C

Answer the following questions in short (within the limit of 50 words) :
[3 marks each] 15

11. Explain the formation of rainbow with a neat figure.

12. Explain the characteristics of magnetic field lines with figure. (March 15)

OR

12. Explain the effect resulting, when a current carrying wire is placed in the magnetic field.

13. Explain Contact process for production of sulphuric acid. (July 15)

14. Explain the fermentation reaction and its importance. (July 13)

14. Explain cleansing action of soap and detergent. (March 16)

15. Describe menstrual cycle in female.

SECTION D

Answer the following questions in detail (within the limit of 100 words):
[5 marks each] 15

16. Derive the relationship between focal length and radius of curvature for spherical mirrors. (March 14)

17. What is metallic corrosion? Describe the remedies to prevent it.

OR

17. Describe froth floatation method with diagram.

18. Explain the processes of absorption of digested food, its assimilation and egestion in human.

OR

18. Write the detailed information about heterotrophic nutrition and its subtypes.

1. How will nanotechnology help to face future challenges? (March 13, 14; July 13) 10

OR

1. Discuss any two properties of carbon nanotube. (March 14)

2. Write Faraday's laws of electrolysis. (March 15)

3. Explain occurrence of methane and its preparation. (July 14)

OR

3. What is isomerism? Write the name and the formula of isomers of butane. (March 13, 16; July 14)

4. Give two points of difference between Arteries and Veins. (July 14, March 16)

5. By which method is the domestic garbage disposed? (March 13)

SECTION B

Answer the following questions in short (within the limit of 30 words):
[2 marks each] 10

6. How are artificial satellites useful in communication? (July 14)

7. State the function of testosterone and estrogen hormones.

8. What is neutralisation reaction? Write two neutralisation reactions.

(July 13, March 14)

9. Explain how fossils provide evidence of evolution.

OR

9. Name four varieties of vegetables which have been produced from wild cabbage by the process of artificial selection. (July 14)

10. What is wildlife? What is its importance? (July 13)

11. Explain the function of main parts of human eye by drawing a simple sketch of it. (July 14)

12. Write a short note on fuse. (July 13, 14)

OR

12. What safety measures should be taken during the use of electricity?

(March 13, 14, 16; July 13)

13. Explain the industrial preparation of ammonia by Haber's process. Write two physical properties of ammonia. (March 13, 14)

14. Describe Fischer Tropsch process in the manufacture of propanone with equation and two uses. (March 13, July 14)

OR

14. Write a short note on detergents. (July 14, 15)

15. Explain female reproductive organs. (March 14)

SECTION D

Answer the following questions in detail (within the limit of 100 words):

15

[5 marks each]

16. Explain the principle, construction and working system of astronomical telescope with neat diagram.

17. State the various stages involved in metallurgy, give brief information of each stage.

OR

17. Explain the extraction of iron by Blast furnace. (July 13)

18. Draw the labelled diagram of human digestive system and explain it. (March 14)

OR

18. What is nutrition? Explain, with diagram, the process of nutrition in amoeba.

(March 13, 14; July 14)

4

Answer the following questions in short (within the limit of 30 words):
[2 marks each] 10

1. Explain the benefits of Nanotechnology to the health sector of human beings.

(March 13, July 15)

OR

1. Write the four improvements expected in the future due to Nanotechnology.

(July 13)

2. If an electric bulb is connected to 220 V line draws an electric current of 0.5 A, then what will be the resistance of filament of the bulb? (July 13)

③ Write the industrial name of Ethyne with its uses. (March 13, 16)

OR

③ What is called fossil fuel? Write its uses.

4. What is lymph? Explain its constitution. (March 15)

⑤ What are global problems? Write the global problems faced by living organisms.
(July 13, 14, 15; March 14)

SECTION B

Answer the following questions in short (within the limit of 30 words):
[2 marks each] 10

6. What is solar system? Write the names of the planets of the solar system in sequence. (July 13, March 16)

7. What is a reflex action? Write two examples of reflex action. (March 14, 15)

8. Explain Arrhenius acid-base theory giving example.

9. Explain classification of living organisms on the basis of evolution. (March 14)

OR

9. The characters are under the control of genes. Explain giving suitable examples.

10. Write the importance of forest. (March 15)

SECTION C

Answer the following questions in short (within the limit of 50 words):
[3 marks each] 15

11. State the defects of vision in human eyes and its remedies. Explain the defect of Myopia and remedies to control it. (March 13)

12. Explain the working of electric motor by drawing the diagram.

OR

12. Describe Oersted's experiment which shows that magnetic field is linked with electric current.

13. Explain with diagram, the method for preparation of dihydrogen gas in laboratory.
(July 14, March 16)
14. Explain the modern method of industrial production of acetic acid. Also write any two properties and uses. (March 15)

OR

14. Write the oxidation, reduction and addition reaction of methanal with hydrogen cyanide.
15. With the help of a diagram, explain sexual reproduction in flowering plants.
(March 13)

SECTION D

Answer the following questions in detail (within the limit of 100 words):
[5 marks each] 15

16. Derive the formula for spherical mirror $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$. (July 13)
17. What is concentration of ores? Explain the process with diagram by which metallic ore with sulphide as an impurity is purified.
(March 13, 14; July 14, 15)

OR

17. What is refining of metals? Explain, with diagram, the method of electrolysis by which copper is purified. (March 13, 16)
18. What is respiration? Explain the process of respiration in human beings.
(March 13, July 13)

OR

18. What is mode of nutrition? Explain in detail two main modes of nutrition giving examples. (July 15)

6

CHAP:-1

- (1) Prove $\sqrt{23} + \sqrt{528} = 2\sqrt{3} + \sqrt{11}$
- (2) find g.c.d of 735 and 85 by using Euclid's algorithm.
- (3) Prove that $\sqrt{3} + \sqrt{2}$ is an irrational num.
- (4) The area of a circle is $(14 + 6\sqrt{5})\pi$ units, find its radius.
- (5) find the largest num. dividing 230 and 142 and leaving remainders 5 and 7 resp.
- (6) Two buses start from the same spot for the same circular route one is a BRTS Bus returning in 35 minutes. The other is a regular express bus taking 42 minutes to return. After how many minutes will they meet again at the same initial spot?

CHAP:-2

- (1) following polynomial $P(x)$ is divided by $S(x)$. Obtain quotient and remainder.

$$P(x) = \frac{2}{3}x^2 + 5x + 6, \quad S(x) = x + 6$$

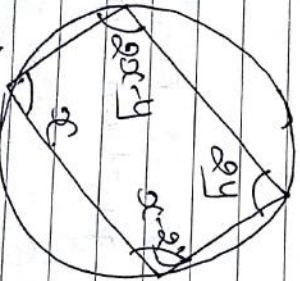
- (2) check the validity of the statement $(x+2)$ is a factor of $P(x) = x^3 + x^2 + x + 2$.
- (3) Derive a quadratic poly. for which the sum of zeroes = $\frac{1}{3}$

and the product of zeroes = $\frac{1}{2}$.

- (4). Check that 4 & 1 are the zeroes of quadratic poly. $P(x) = x^2 - 5x + 4$. Also, verify the relation between the zeroes and the co-efficients of the polynomial.
- (5) The product of two zeroes of poly. $P(x) = x^3 - 3x^2 - 6x + 8$ is (-2). Find all the zeroes of the poly.
- (6) The product of two poly is $6x^3 + 29x^2 + 44x + 21$. If one of the poly is $3x + 7$, find the other poly.

CHAP-3

- (1) In the following figure, the measures of the angles are given



Solve them by the method of elimination

- (2) Form a pair of linear equations in two variables for the following statement: Father tells his son, "five years ago, I was

Seven times as old as you were.
After five years, I will be three
times as old as you will be".

(3). Solve the following pair of
linear equation in two variables
by the cross-multiplication method

$$\frac{3x + y}{3} = 1, \quad 7x - 15y = 21.$$

(4) solve the pair of eqs for
 $x \neq 0, y \neq 0$: $2x + 3y = 20cy$,
and $6x + 12y = 70cy$

(5) If $152x - 378y = -74$ and
 $-378x + 152y = -604$, find
 $x + y$: $x - y$

(6) solve the following pair of
linear eqs in two variables
by the method of elimination
 $x + y = a + b$ and $ax - by = a^2 - b^2$.

CHAP:- 4

(1) solve the following pair of linear
eqs by cross-multiplication
method:

$$\frac{4x + 7y}{xy} = 16, \quad \frac{10x + 3y}{xy} = 11$$

(2). Product of digits of a two digit
no is 21. If we add 36 to
the no, the new num. obtained

is a no. formed by interchange of the digits. find the no.

(3) The difference of the speed of a faster car and a slower car is 20 km/hr. If the slower car takes 1 hour more than the faster car to travel a distance of 400 km. find speed of both the cars.

(4) A vendor gets a profit in % equal to the cost price of a flowerpot. when he sells it for ₹ 96. find the cost of the flowerpot and the % of profit.

(5) state the standard form of a quadratic equation in one variable. solve it by the method of perfect squares.

(6) A river flows at a speed of 4 km/hr. A boat takes 15 hours to travel 112 km downstream and coming back the same distance upstream. find the speed of the boat in still water (speed of the river flow is less than the speed of the boat in still water)

CHAP:- 8

- (1) $A(1, 7)$, $B(2, 4)$ & $C(k, 5)$ are the vertices of right angled triangle in which $\angle A$ is a right angle. find the value of k .
- (2) find a point on the y -axis which is equidistant from $P(-6, 4)$ and $Q(2, -8)$.
- (3) Show that $P(3, -3)$, $Q(-3, -3)$ and $O(0, 0)$ are the vertices of an isosceles right angled triangle.
- (4) Point $P(x, y)$ lies on AB joining $A(0, 2)$ and $B(3, 5)$. find the ratio $AP:AB$ and also find the value of y .
- (5) $A(2, 1)$, $B(-1, 2)$, $C(1, 0)$ are three of the four vertices of parallelogram $ABCD$. find the coordinates of the fourth vertex D .
- (6) The vertices of $\triangle ABC$ are $A(2, 3)$, $B(4, 5)$ and $C(a, 3)$. If the area of $\triangle ABC$ is 5. find the value of a .

CHAP:- 12

- (1) Construct a triangle with sides 4 cm, 5 cm & 7 cm. and then construct a triangle similar to it. whose sides have lengths in the ratio 2:3 to the lengths of the corresponding sides of

the first triangle. write the steps of construction

(2) Construct the pair of tangents from a point in the exterior of the circle whose centre is not given. write the steps of construction

(3) Draw $\odot(O, 4\text{cm})$ construct a pair of tangents from A, where $OA = 10\text{cm}$. write the steps of construction.

(4) Draw AB such that $AB = 10\text{cm}$. Draw $\odot(A, 3)$ and $\odot(B, 4)$. Construct the tangents to each circle through the centre of the other circle. Write the steps of construction.

(5) $\odot(P, 4)$ is given. Draw a pair of tangents such that measure of the angle between the tangents at their intersection point A is 60° . write the steps of construction.

CHAP:-15

(1) If $m+z = 75$ and $m-z = 1.4$, then find the mean, median and mode of the distribution.

(2) find the mean of the following freq. distribution by the assumed mean method

No. of apples.	50-53	53-56	56-59	59-62	62-65
No. of boxes.	20	150	115	95	20

(3) Find the median of the following data:

Value of variable	12	13	14	15	16	17	18	19	20
frequency	7	10	15	18	20	10	9	8	3

(4) The following data gives the information of life of 300 electric bulbs (in hours). Find the modal life.

life (in hrs)	0-20	20-40	40-60	60-80	80-100	100-120
No. of electric bulb	31	36	38	42	82	71

(5) The mean of the following freq. distribution is 16. find the missing freq.

class.	0-4	4-8	8-12	12-16	16-20	20-24	24-28
freq.	6	8	17	23	16	15	-

28-32	32-36
4	3

(6) find the median from following freq. distribution

class	0-100	100-200	200-300	300-400	400-500	500-600
fi	64	62	84	72	66	52

(7) Find the mode of the data given below.

class	20-29	30-39	40-49	50-59	60-69
fi	15	20	50	30	10

(8) The distribution below shows the no. of wickets taken by 9 bowlers in one-day cricket matches

No. of wickets.	20-60	60-100	100-150	150-250	250-350	350-450
No. of bowlers	7	5	16	12	2	3

Find the mean no. of wickets

(9) The median of 230 obs. of the following freq. distribution is 46.

class.	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f_i	12	30	a	65	b	25	18

(10) Find the median for the following

Value of Variable	12	13	14	15	16	17	18	19	20
frequency	7	10	15	18	20	10	9	8	3

(11) The table belows gives the % of girls in higher Secondary Science stream of rural areas of various states of India.

% of girls.	15-25	25-35	35-45	45-55	55-65	65-75	75-85
No. of states	6	10	5	6	4	2	2

Find the mean % of girls by step deviation method.

(12) The following table gives the freq. distribution of marks. Scored by 50 students of class X in mathematics examination of 80 marks. Find the median of the data.

class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	$\frac{70}{80}$
f_i	2	5	8	16	9	5	3	2

(13) For a given frequency distribution $\bar{x} + m = 34$ and $m + \bar{x} = 40$. then find m .

(14) for some given data $\bar{x} - z = 8$, $\bar{x} + z = 45$. find m .

CHAP = 16.

(1) 15 defective ballpens are accidentally mixed with 135 good ones. It is not possible to just look at a ballpen and say whether it is defective or not - one ballpen is picked up at random from it. find the probability that the ballpen selected is a good one.

(2) A Cartoon consists of 100 trousers of which 73 are good, 12 have minor defects and 15 have major defects. Kanu, a trader, will only accept the trousers which are good, but Ruelha, another trader, will only reject the trousers which have major defects. One trouser is drawn at random from the cartoon. What is the probability that

- (1) It is acceptable to Kanu,
- (2) It is acceptable to Ruelha.

(3) A coin is tossed 3 times, find the probability of the following events.

- (I) A: getting at least one head
- (II) B: getting exactly 2 heads
- (III) C: at most one head

(4) Gopi buys a toy for his son if it is non-defective. Shop-keeper takes out one toy at random from a box of 10 toys containing 3 defective toys and other good ones. find the probability that

- (1) Gopi buys the toy
- (2) Gopi does not buy the toy

CHAP:-1

- (1) Find the square root: $10 + \sqrt{91}$.
- (2) Dhawalbhai, his wife Remalben and their son Rahul start morning walk. The length of their feet are 90 cm, 80 cm, 60 cm resp. How much distance should be covered to meet each other if each of them take definite whole num. of steps)
- (3) Find L.C.M (15, 25) by using g.c.d $(a, b) \times \text{L.C.M}(a, b) = ab$
- (4) Find g.c.d of 144 and 610 by Euclid's algorithm.
- (5) If $\sqrt{7}$ is prime, then Prove that $\sqrt{7}$ is irrational.
- (6) Find the square root of $12 + 2\sqrt{85}$
- (7) The length of a diagonal of square is $\sqrt{2}(6 + 2\sqrt{5})$ cm. Then find its length of side of square
- (8) Find the square root of $6 + 4\sqrt{5}$
- (9) Find g.c.d of 150 and 32 by Euclid's method
- (10) Find the square root $14 + 6\sqrt{5}$.

CHAPTER 9

(1) Find the Quadratic eqn, whose addition of zeros is $-\frac{7}{3}$ and

multiplication is $\frac{4}{3}$.

(2) If 3 is one of the roots of $P(x) = 3x^3 - x^2 - ax - 45$. then find a .

(3) Find the sum of the roots and the product of the roots of the quadratic poly. $P(x) = 3x^2 + 7x + 4$ without finding the roots.

(4) A trader buys $x^2 - x - 6$ T.V sets for Rs. $3x^2 + 5x - 21$ and sells

find the price of each T.V set find the price $(3x+7)$ is a

(5) Factor of $P(x) = 6x^3 + 29x^2 + 44x + 21$ find the remainder by dividing $5x^2 + 6x + 3$ by $x+3$.

(6) For poly. $P(x) = 6x^3 + 29x^2 + 44x + 21$ find $P(-2)$.

(7) Find the remainder polynomial when the cubic poly. $x^3 - 3x^2 + 4x + 5$ is divided by $x-2$.

(8) Find the zeros of $P(x) = x^2 + 10x + 24$ and verify the relation between the coefficients.

(9) Find the value of $P(x) = x^2 - 8x + 5$ for $x = -1$ and $x = 5$.

(11) Divide $5x^3 + 9x^2 + 20$ by $x+2$

CHAP: 9

(1) Solve the following pair of linear eqn by elimination method

$$4x + 19y + 18 = 0$$

$$18x - 23y + 19 = 0$$

(2) Form a pair of linear equations in two variables for the following information

"These are some 50 paise and 25 paise coins in a bag. The total num. of coins are 140 and the value of all coins is Rs. 50"

(3) Solve the following by using cross-multiplication method

$$\frac{x}{5} + \frac{y}{15} = \frac{1}{3} \quad \text{--- (1)}$$

$$\frac{x}{3} + \frac{y}{5} = \frac{1}{5} \quad \text{--- (2)}$$

(4) Solve the pair of following eqn $3x + y = 5$, $5x + 3y = 3$

(5) Find the solution of given pair of eqn by elimination method

$$3x + 4y = -17 \quad \text{--- (1)}$$

$$5x + 2y = -19 \quad \text{--- (2)}$$

(6) Solve $5x + 8y = 18$ and $2x - 3y = 1$ by elimination method.

(7) The ratio of the present ages of a mother and her daughter is 9:2. After 4 years the ratio of their ages will be 10:3. Form the pair of linear equation in two variable.

(8) Solve the pair of equation by cross multiplication method
 $2x - 5y = 4$, $3x - 8y = 5$

(9) solve the following pair of linear eqn by method of substitution
 $2x + y = 8$, $x + 6y = 15$

CHAP:-4

(1) The sum of areas of two squares is 400 m^2 . If the difference between the perimeter of these squares is 16 m. then find the length of both squares

(2) A plane took off 1 hour late from Vadodara. To reach in time at a distance of 1200 km, its speed is increased by 100 km/h. find its usual speed.

(3) A car takes 1 hr less to cover a distance of 200 km. If its speed is increased by 10 km/hr than its usual

Speed. find the usual speed of the car.

(4) The product of the ages of Carin & years ago and 2 years later is 1200. find the present age of Carin

5) Write standard form of quadratic eq and find the roots of the equation $3x^2 + 5\sqrt{3}x + 2 = 0$ using general formula

6) state the general formula of ~~quadratic~~ quadratic eq. obtain the solution of this eq using method of completing a square, also prove $x + \beta = -\frac{b}{a}$.

7) Solve the following pair of linear eq

$$\frac{3}{\sqrt{x}} + \frac{4}{\sqrt{y}} = 2, \quad \frac{5}{\sqrt{x}} + \frac{7}{\sqrt{y}} = \frac{41}{12}$$

(x > 0, y > 0)

8) find the solution of pair of equation

$$\frac{5}{2x} + \frac{2}{3y} = 7, \quad \frac{3}{x} + \frac{2}{y} = 12 \quad (x \neq 0, y \neq 0)$$

CHAP:-8

- (1) Find the co-ordinates of the point which divides the line segment \overline{AB} joining $A(2,3)$, $B(6,7)$ in the ratio 3:1 from A.
- (2) If $A(5,2)$, $B(3,4)$, $C(x,y)$ are collinear and $AB = BC$ then find (x,y)
- (3) Find the coordinates of the point which divides \overline{AB} in the ratio 3:2 from A, where $A(-1,7)$ and $B(4,2)$
- (4) Find the area of $\triangle ABC$ whose vertices are $A(9,5)$, $B(6,7)$, $C(2,3)$
- (5) If $X(3,1)$, $Y(4,5)$, $Z(-2,-1)$ are co-ordinates of vertices of $\triangle XYZ$. then find area of $\triangle XYZ$.
- (6) The distance of a point P on x-axis from $A(11,12)$ is 13 units. find the co-ordinate of point P.
- (7) $A(-5,2)$, $B(x,-3)$, $C(-2,4)$ are the vertices of $\triangle ABC$. G is a centroid of $\triangle ABC$. The co-ordinates of G are $G(-2,1)$. Then find the value of x & y.
- (8) $P(3,2)$ and $Q(k,5)$ are the given end points of \overline{PQ} . If $d(P,Q) = 5$ then find the value of k.

(9) find the distance between
 $A(a+b, b-a)$ & $B(a-b, a+b)$

(10) Find the area of triangle ABC
having vertices $A(4, 2)$, $B(3, 9)$ &
 $C(10, 10)$.

(11) find the co-ordinates of points
which divide the line segment
joining $A(-7, 5)$ and $B(5, -1)$
into three congruent segments.

CHAP:-16.

(1) A card is selected at random from
well-shuffled pack of 52 cards.
find the probability that selected
card is

(1) black coloured queen

(2) not a king.

(2) A coin is tossed three times.
find the probability of the
following events.

(1) A: getting at least two heads

(2) B: getting exactly two heads

(3) C: getting at most one head

(3) There are 5 red, 2 yellow
and 3 white roses in a
flower pot. Select one } rose,
from it at random. what
is the probability that the
selected rose is

(1) red (2) yellow (3) not white
colour

(4) marks obtained by students from 100 marks are as follows

Marks	0-34	35-50	51-70	71-90	91-100
No. of Stu.	7	10	14	11	8
Grade	F	D	C	B	A

Find the probability that the students get,

- (1) F grade
- (2) Pass with A grade
- (3) obtain C or D grade.

(5) Two balance dice are thrown once. Write down all possible outcomes of this experiment.

What is the probability that

(1) The product of num. obtained on upper face of both dice is even num.

(2) The sum of num. on both the dice is a prime num.

(6) A balanced die is tossed once. Find the probability of getting

- (1) a prime num.
- (2) an even num.

(7) A box contains 100 cards marked with num 1 to 100. If one card is drawn randomly, find the probability that it bears.

(1) Even prime num.

(2) A num. divisible by 7.

(3) The num. at unit place is 9.

(8) A dice is thrown once. Find the probability of getting

(1) a prime num.

(2) a num. lying between 2 & 5

(3) an even num.

(9) There are 100 boards in a box on which the num 1 to 100 are written. If one board is selected randomly from a box then find the probability of

(1) The num. on the board is two digit

(2) The num. on the board is a multiple of 7

(3) The num. on the board is four digit.

CHAP:- 15

(1) The median of 230 obs. of the following frequency distribution is 46. Find a and b.

class.	10-20	20-30	30-40	40-50	50-60	60-70	70-80
freq.	12	30	a	65	b	25	18

(2) The distribution below shows the num. of wickets taken by bowlers in one-day cricket matches. Find the mean of the num. of wickets.

(No. of wickets)	20-60	60-100	100-150	150-250	250-350	350-450
No. of bowlers.	7	5	16	12	2	3

(3) For some data mean $\bar{x} = 35.8$, $\sum fi = 50$ and $c = 10$ then find assumed mean.

(4) Find the mode for the following frequency distribution

Class.	0-100	100-200	200-300	300-400	400-500	500-600
freq.	64	62	77	62	66	54

(5) The marks obtained by 50 students of class 10 out of 80 marks are given in the following

frequency distribution

class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f_i	2	5	8	16	9	5	3	2

Find the median.

(6) The median of 125 obs. for the given frequency distribution is 22.12. Find missing frequencies f_1 and f_2 .

class	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39
f_i	3	8	12	f_1	35	21	f_2	6

40-44
2

(7) For the data $l=5$, $f_0=2$, $f_1=8$, $f_2=2$ and $c=2$, find its mode.

(8) Find the mean of the following frequency distribution

class	40-50	50-60	60-70	70-80	80-90	90-100
f_i	5	10	20	9	6	2

(9) Find the median of the following frequency distribution.

class	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
f_i	9	11	15	24	19	9	8	5

(10) The median class is 35-40 of a cumulative frequency distribution with 45 obs. and class-length 5. The freq. is 10 and cumulative frequency of the class preceding the median class is 15. Then find the median of the data.

(11). The following data gives the information of 287 electric bulbs (in hours) as follows. Find the modal life of the electric bulbs.

Life in hours.	0-20	20-40	40-60	60-80	80-100	100-120
No. of electric bulbs	26	31	35	42	82	71

(12). Find the mean of the following frequency distribution by step-deviation method

class	40-50	50-60	60-70	70-80	80-90	90-100
f_i	5	10	20	9	6	2

(13). Find mode for the following given data

class	20-29	30-39	40-49	50-59	60-69
f_i	15	20	50	30	10

(18) The Cumulative frequency "more than" type is given in the following table. Find the median of the following data

Days.	≥ 0	≥ 50	≥ 100	≥ 150	≥ 200	≥ 250
Comm. freq.	90	80	60	30	15	0.

(19) Observations of some data are $\frac{x}{5}, x, \frac{x}{4}, \frac{x}{2}, x, \frac{x}{3}$, where $x > 0$.

If the median of the data is 10, find mean.

(20) Find the mean of the following freq. distribution

Marks.	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Nb. obs.			30	40	50	60	70	80	90
Student	3	5	7	10	12	15	12	6	2
									8

(21) The median of 230 obs. of the following freq. distribution is 46. Find A and B

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
fi	12	30	A	65	B	25	18

(22) Find the mean of the following frequency distribution

class	0-50	50-100	100-150	150-200	200-250	250-300	300-350
f_i	10	15	30	20	15	8	2

(23) Find the median of the following frequency distribution

class	0-100	100-200	200-300	300-400	400-500	500-600
f_i	64	62	84	72	66	52

(24) For the data set, $Z-m = 2.5$, if the mean is 20 then find the value of mode

~~(25)~~ ... (questions)

Unit - 1 Exercise

Part - B

10

Section A - Answer in Brief (2 marks each)

1. Write a note on the Negritoit(Habsi) tribe that came to India.
2. Write a note on the Australoid(Nishad) tribe that came to India.
3. Write a note on the Mongoloid and the tribes that came from Central Asia.
4. How has the Indian landscape added to its culture?
5. How can it be said that Indian's love nature and animals from ancient times?

15

Section B - Answer in Detail (3 marks each)

1. Explain the meaning of Culture and give its details?
2. Explain the meaning of Natural Heritage and state what does it comprise of?
3. Write about the Cultural heritage of India. OR Explain in Detail the Cultural Heritage of Gujarat
4. Write a note on the Dravidians and Aryans
5. Explain our constitutional duties for preservation and conservation of Heritage.

dancers.

Marks 30

Unit 2 Part - B

10

Section A - Answer in Brief. (2 marks each)

1. What do you know about the ancient art form of clay?
2. Give information regarding the ancient art form of Bhavai.
3. Write about the ancient art form of Patola weaving.
4. Write a note on the art form of embroidery.

15

Section B - Answer in Detail (3 marks each)

1. Which are the different texts of the ancient art forms of Music?
2. Describe the art forms of Painting.
3. Explain the ancient art form of drama.
4. Write a note on Garba and Garbis.
5. Describe the art of Diamond, Bead work and Enamel work of India and Gujarat.

Section C - Answer in Detail (5 marks each)

5

1. What is the origin of the art form dance? Describe each of them.

Unit 3 Exercise

Marks 35

Part - B

Section A - Answer in Brief. (2 marks each)

1. What is meant by architecture and sculpture?
2. Explain – 'The Gupta period is called the golden period of art.'
3. Write a note on the architecture of Gopuram.
4. Write a note on Pallava architecture and Chariot temples.
5. Lothal was an important port of Gujarat. Explain.

10

Section B - Answer in Detail (3 marks each)

1. Short note on Sun temple of Modhera.
2. Write a note on Dhulaveera.
3. Write a note on the Pillar of Sarnath.
4. Write the meaning of Stupa and discuss its features.
5. Write a note on Harappa.

15

Section C - Answer in Detail (5 marks each)

1. Give details regarding the town planning and drainage system of the ancient city of Mohen-jo-daro.
2. Discuss about the caves of Gujarat.

10

Unit 4 Exercise Part B-

Marks 35

Section A – Answer in Brief (2 marks)

1. Write a note on the Rigveda.
2. What information is given in the Yajurveda?
3. Write a note on the epic Mahabharata.
4. Write a note of Awadhi literature or Karnataka Literature.
5. Write a note on Gujarati literature.

10

Section B – Answer in Detail (3 marks)

1. Write a short note on Amir Khusro.
2. Write a note on the literature of the Mughal Period.
3. Write a note on Takshashila University.
4. Write a note on Nalanda University.
5. Give information about Vallabhi University.

15

Section B – Answer in Detail (5 marks)

1. Describe Medieval Literature
2. Describe Ancient Literature

10

Unit 5 - Exercise

Marks 35

Part - B

Section A/B - Answer in Brief. (2 marks each)

10

1. Write a note on discoveries made by Aryabhatta in Mathematics.
2. Give the meaning of science and technology.
3. Write about the contribution of Nagarjuna in the field of chemistry.
4. Write about the scientific heritage of ancient India.
5. Write contribution of India in the field of astrology.

Section C - Answer in Detail (3 marks each)

15

1. Write about the contribution made by ancient India in metallurgy.
2. Write about the development in chemistry achieved by ancient India.
3. Which information does Vaastu Shastra contain in it?
4. What contribution was made in ancient India in the field of Astronomy and Astrology?
5. Write a short note on: Astronomy of ancient India.

Section D - Answer in Detail (5 marks each)

10

1. Discuss ancient India's medical science and surgery.
2. Write about the contribution of ancient India in the field of Mathematics.

Unit 8 Exercise

Marks 25

Part- B

Section A- Answer in Brief (2 marks each)

10

1. What is meant by a resource and describe its usages?
2. Write a note on Mountain soil.
3. Write a note on Desert soil.
4. Write a note on Red soil. **OR** Write a note on Laterite soil.
5. How can soil erosion be stopped in arid regions and on mountains?

Section B- Answer in Detail (3 marks each)

15

1. Write a note on Alluvial soil.
2. Write a note on Black soil.
3. State the remedies to prevent soil erosion.
4. Write a note on the type of resources.
5. What is meant by soil conservation and state the remedies of soil conservation

Unit 11

Part- B Part B – Answer the following questions

Marks 22

Section A- Answer in Brief (2 marks each)

10

1. Which are the sources of water in India?
2. Why are irrigation facilities needed in India?
3. Describe underground water as a resource in India?
4. Explain the division of regions under irrigation in India?
5. What is a Multipurpose project?

Section B- Answer in Detail (3 marks each)

12

1. Describe the rivers of India?
2. Why has the water crisis developed in India?
3. Give information about rain water harvesting.
4. What steps should be followed for water management?

Unit 12

Part- B Part B – Answer the following questions

Section A -Answer in brief (2 marks each)

Marks 25

1. 'Modern Age is known as Mineral Age'. Why?
2. Write a note on Manganese.
3. Mention the utility of copper.
4. Write a note on Wind Energy.
5. Why there is an increase in the usage of non-conventional energy today?

10

Section B -Answer in detail (3 mark each)

15

1. Explain the classification of Minerals.
2. Write a note on Solar Energy.
3. State the remedies to preserve the minerals.
4. Give detailed information about mineral oil.
5. Write a note on electricity or Write a note on coal.

Unit 15- Exercise

part- B- Answer the following questions

Marks 35

Section A- Answer in Brief (2 marks each)

1. What is meant by Economic Development?
2. Wants are unlimited. Explain
3. What do you mean by alternative uses of resources?
4. Write a note on the primary sector.
5. Discuss about land as a factor of production.

10

Section B- Answer in Brief (2 marks each)

1. What are the features of Market Mechanism?
2. Differentiate between Economic and Non-Economic activity.
3. What are the limitations of Market Economy?
4. Benefits and Limitations of the Socialist System.
5. Feature of Mixed Economic System followed by India.

10

Section C- Answer in Detail (3 marks each)

1. Difference between Economic Growth and Economic Development.
2. What are the benefits and limitations of Socialist System?
3. Features of a Developing Economy. (Any six)
4. Difference between the Private and Public Sector.
5. Discuss the distribution of factors of production.

15

Unit 16 Exercise

Part - B – Answer the following questions

Marks 25

Section A : Answer in Brief (2 marks each)

1. When and why did economic reforms start in India?
2. Mention the methods of Privatization.
3. What is the meaning of Globalization?
4. What is the impact of WTO on the Indian Economy?
5. What is the meaning of Liberalization? Mention its benefits?

10

Section B : Answer in Brief (3 marks each)

1. What is meant by Privatization? What are its advantages and disadvantages?
2. Explain the benefits and disadvantages of Globalization?
3. Write about the objectives and functions of the World Trade Organisation
4. Explain the strategy of Sustainable Development.
5. Which steps have been taken to conserve the environment?

15

Unit 19 Exercise

Part B

Marks 42

Section A- Answer in Brief (2 marks each)

12

1. What is Human Development?
2. Which new techniques are used to measure Human Development Index?
3. According to Human Development Report, 2015, what is the Human Development of India?
4. Which neighbouring countries are ahead of India in Human Development Index?
5. Which vaccinations are given to children under Child Vaccination Programme?
6. What is Abhayam Yojna? Explain.

Section B- Answer in Detail (3 marks each)

15

1. Human Development is related with which things of human life.
2. Explain women welfare scheme of Indian Government chronologically.
3. Human Development Index is affected by which things around us?
4. In what way are the women discriminated in India?
5. Describe the work done in the field of health improvement.

Section C- Answer in Detail (5 marks each)

15

1. How is Human Development Index calculated?
2. Describe the challenges of human development in India?
3. Which schemes have been started by the Gujarat government to give equality to women?