TAPASYA

COLLEGE OF COMMERCE & MANAGEMENT

10th Class – SSC Questioner

(Telangana State Board)

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MATHEMATICS

CHAPTER –1 REAL NUMBERS

Two Mark Questions

1. Find the LCM $(306, 1314)$, if HCF $(306, 1314)$=18. **Ans. 22338**
2. Find the LCM of 336 by prime factorisation method. **Ans. 3024**
3. The HCF and LCM of two numbers are 9 and 90 respectively. If one number is 18, find the other. **Ans. 45**
4. Show that every positive even integer is of the form 2q and that every positive odd integer is of the form 2q+1, where q is some integer.
5. Find the LCM and HCF of 120 and 144 by fundamental theorem of Arithmetic. **Ans. HCF=24, LCM=720**
6. Without actually performing the long division, state whether the 543/225 has a terminating decimal expansion or non-terminating recurring decimal expansion. **Ans. Terminating**
7. Use Euclid's Lemma to show that the square of any positive integer is of form 4m or 4m+1 for some integer m.
8. Find the LCM and HCF of 15, 18, and 45 by the prime factorisation method. **Ans. HCF=18, LCM=918**

Four Mark Questions

1. A merchant has 120 litres of oil of one kind, 180 litres of another kind and 240 litres of third kind. He wants to sells the oil by filling the three kinds of oil in tins of equal capacity. What should be the greatest capacity of such a tin? **Ans. 60 Litres**
2. Show that any positive even integer is of the form $6m,\ 6m+2\ or\ 6m+4$ where m is some integer.
3. Find the HCF and LCM of 306 and 54. Verify that $HCF \times LCM =$ Product of the two numbers.
4. Prove that $\frac{1}{2+\sqrt{3}}$ is an irrational number.
5. Show that 9^n can't end with 2 for any integer n.
6. Show that the square of any positive odd integer is of the form $8m+1$, for some integer m.
7. Prove that $\sqrt{3}+\sqrt{5}$ is an irrational number.
8. Use Euclid's division algorithm to find H.C.F. of 870 and 225. **Ans. HCF=15**
9. Prove that $2+3\sqrt{5}$ is an irrational number.
10. Prove that $2\sqrt{3}-4$ is an irrational number.

Six Marks Questions

1. Prove that $2\sqrt{3}-7$ is an irrational.

2. Show that

I. If $x^2+y^2=3xy$ then $2log(x-y)=logx+logy$

II. If $x^2+y^2=10xy$ then $2log(x+y)=logx+logy+2log2+log3$

3. If $a^2+b^2=7ab$ then Log $(a+b/3)=1/2(loga+logb)$

4. If log $(\frac{x+y}{3})=\frac{1}{2}(\log x+\log y)$ then find the value of $x/y+y/x$

5. If $x^2+y^2=25xy$ then show that $2log(x+y)=3log3+logx+logy$

6. $(2.3)x=(0.23y)=1000$ then find the value of $\frac{1}{x}-\frac{1}{y}$

7. A rectangular field is 150m x 60m. Two cyclists Karan and Vijay start together and can cycle at speed of 21m/min and 28m/min, respectively. They cycle along the rectangular track, around the field from the same point and at the same moment. After how many minutes will they meet again at the starting point?

8. Radius of a circular track is 63 m. Two cyclists Amit and Ajit start together from the same position, at the same time and in the same direction with speeds 33m/min. After how many minutes they meet again at the starting point?

9. Expand I. $log15$ II. $\log\frac{p^2q^3}{r}$ III. $log\ x^2y^3z^4$ IV. $\log\frac{343}{125}$ V. $\log\frac{128}{625}$ VI. $\log\sqrt{\frac{x^3}{y^3}}$ VII. $\log\frac{64}{243}$

CHAPTER – 2 SETS

Two Mark Questions

1. Define

(i). Set (ii). Empty set (iii). Finite set (iv). Infinite set (v). Subset (vi). Equal set (vii). Disjoint set (viii).Cardinal numbers of a set and give an example.

2. Write the set builders form of

I. $A\cup B$ II. $A\cap B$ III. $\{3,6,9,12\}$ IV. B-A V. A-B VI. $\{2,4,8,16,32\}$

VII. $\{5,25,125,625\}$ VIII. $\{1,4,9,16,\ldots,100\}$ IX. $A=\{1,1/2,1/3,1/4\}$

X. $A=\{1,2,3,4\}$ XI. $B=\{1,8,27,64,125\}$ XII. $\{a,e,i,o,u\}$ XIII. Set of rational numbers.

3. Write roaster form of

i. A={x : x is a natural number greater than 50 but smaller than 100}

ii. B= {x : x an integer, $x^2 = 4$} iii. C = {x : x is a letter in the world 'LOYAL'}

iv. D = {X : is prime which is divisor of 60} v. E = {x : x is a letter of 'RAMANUJAN'}

vi. F = {x : x = n^2-1, $n \in N, n \leq 5$}

4. A={Rectangles}, B={Rhombuses} guess $A \cap B$

5. Is an empty set is finite? Why?

6. The intersection of any two disjoint sets is a null set why?

7. Is $Q = \{x : x + 6 = 6\}$ is not an empty set why?

8. Write any two examples of sets from your daily life?

9. If $A = \{x : x \in N, x < 5\}$ and $B = \{x : x \in N, 2 < x < 7\}$ \ then draw venn diagram for $A \cup B$.

10. Construct two sets A and B such that $A \cap B = \phi$?

11. If $n(A \cup B) = 51$, $n(A) = 20$, $n(B) = 44$, then find $n(A \cap B)$.

12. Is $\phi = \{0\}$? Justify your answer?

13. Write two sets of your choice involving geometrical ideas?

14. If $A = \{0,1,2\}$, $B = P\{2,4\}$ find $n(A \cup B)$

15. If A is the set of all names of workers in a factory. State whether A is finite of infinite.

16. P={Set of factors of 5} Q={Set of factors of 25} R={set of factors 125} which is false.

$I. P \subset Q$ $II. Q \subset R$ $III. R \subset P$ $IV. P \subset R$

Four Mark Questions

1. Represent $A \cup B$, $A \cap B$, $A - B$, $B - A$, $A \subseteq B$, $B \subseteq A$, $A \subseteq B \subseteq C$ as Venn diagrams.

2. If $A = \{1,2,3,4\}$, $B = \{1,2,3,5,6\}$ then find $A \cap B$, $B \cap A$ are they equal?

3. If $A = \{2,4,6,8,10\}$, $B = \{3,6,9,12,15\}$ find $A - B$ and $B - A$ comment.

4. If $A = \{0, 2, 4\}$ then find $A \cap \phi$ and $A \cap A$ comment.

5. If

I. $A = \{1,2,3\}$, $B = \{3,4,5\}$

II. $A = \{3,4,5,6,7\}$, $B = \{1,6,7,8,9\}$ then verify $n(AB) = n(A) + n(B) - n(A - B)$

6. List all subsets of

I. $A = \{\ \}, B = \{345\}$

II. $A = \{3,4,5,6,7\}, B = \{1,6,7,8,9\}$ then verify $n(AB) = n(A) + n(B) - n(A - B)$

7. If $A = \{2,4,6,8,10\}$, $B = \{3,6,9,12,15\}$ find $A \cup B, A \cap B, A - B, B - A,$ through Venn diagram.

8. Let $A = \{5,6,7,8\}$, $B = \{7,8,9,10\}$ find

I. $A \cup B$ II. $A \cap B$ III. $A - B$ IV. $B - A$

9. Write roaster and set builder form of "the set of natural number which divides 42".

10. If $A - B = \{3,4,5\}$, $B - A = \{1,8,9\}$ and $A \cap B = \{6,7\}$ then find $A \cup B$.

11. Write an example to propose that $A \subseteq B$ then $A \cup B = B$.

12. $A = \{x: x \text{ factors of } 32\}$, $B = \{1,2,4,8,16,32\}$ then $A = B$ or not justify?

13. If $A = \{3,4,5\}$, $B = \{1,6,7,8\}$ verify whether $n(A+B) = n(A) + n(B)$ or not.

14. If A is the set of all primes below 5 and B is the set of all prime factors of 30 then verify A-B=B-A? Or not?

Six Mark Questions

1. $A = \{x: x \text{ is prime} < 20\}$,

$B = \{x = 2n+1,\ nW, n9\}$ Find $(i)\ A \cup B,\ (ii)\ A \cap B,\ (iii)\ A - B,\ (iv)\ B - A$

2. If A={x:x is a natural number}, B={x : x is an even natural number},

C={x : x is odd natural numbers} D={x : x is a prime}

find $A \cup B, A \cup C, A \cup D, A \cap B, A \cap C, A \cap D, B \cap C, B \cap D, C \cap D$,

$A - B,\ B - A,\ A - C,\ B - C.\ C - D,\ A - D,\ B - D$

3. If $A = \{3,6,9,12,15,18,21\}$, $B = \{4,8,12,16,20\}$, $C = \{2,4,6,8,10,12,14,16\}$,

$D = \{5,10,15,20\}$ then find $A - B,\ A - C,\ A - D,\ B - A,\ C - A,\ D - A,\ B - C,\ B - D,\ C - B,\ D - B$.

4. Prove that if $A \subseteq B,\ B \subseteq A$ then $A = B$.

5. For any two sets A, B verify $A - B,\ B - A$ are mutually disjoint with an example.

6. State whether true or false justify your answer

I. $\{2,3,4,5\}, \{3,6\}$ disjoint II. $\{a,e,i,o,u\}$, $\{a,b,c,d\}$ disjoint

III. $\{2,6,10,14\}$, $\{3,7,11,15\}$ disjoint IV. $\{2,6,10\}$, $\{3,7,11\}$ disjoint

7. State A=B or not

i. $A = \{a,b,c,d\}$, $B = \{d,c,a,b\}$ ii. $A = \{4,8,12,16\}$, $B = \{8,4,16,18\}$

iii. $A = \{2,4,6,8,10\}$, $B = \{x: 2 \text{ is positive integer and } x < 10\}$

iv. $A = \{x: x \text{ is a multiple of } 10\}$, $B = \{10,15,20,25,30,\ldots\}$

v. $A=\{x: x \text{ is a letter of 'ASSASSINATION'}\}$, $B=\{x: x \text{ is a letter of 'STATION'}\}$.

CHAPTER – 3 POLYNOMIALS

Two Mark Questions

1. If α and β are the zeroes of $x^2+7x+12$, then find the value of $\frac{1}{\alpha}+\frac{1}{\beta}+2\alpha\beta$. **Ans.** 281/2

2. Find the zeroes of the quadratic polynomial $2x^2-25$. **Ans.** $\pm\frac{5}{\sqrt{2}}$

3. Find the zeroes of the quadratic polynomial $4x^2-7$. **Ans.** $\pm\frac{\sqrt{7}}{2}$

4. Find a quadratic polynomial whose zeroes are $3+\sqrt{5}$ *and* $3-\sqrt{5}$. **Ans.** x^2-6x+4

5. If α, β are zeroes of quadratic polynomial $x^2-(k+6)x+2(2k-1)$ Find k if $\alpha+\beta=\frac{1}{2}\alpha\beta$

Ans. k=7

6. Form a quadratic polynomial whose one of the zeroes is +15 and sum of the zeroes is 42.

Ans. $x^2-42x+405$

7. Divide $(2x^2+x-20)$ *by* $(x+3)$ and verify division algorithm. **Ans.** $Q: 2x-5,\ R=-5$

8. Find the zeroes of the quadratic polynomial $\sqrt{3}x^2-8x+4\sqrt{3}$. **Ans.** $2\sqrt{3}$ **and** $\frac{2}{\sqrt{3}}$

9. What must be added to polynomial $f(x)=x^4+2x^3-2x^2+x-1$ so that the resulting polynomial is exactly divisible by x^2+2x-3? **Ans.** $x-2$

10. Find a quadratic polynomial with zeroes $3+\sqrt{2}$ *and* $3-\sqrt{2}$ **Ans.** x^2-6x+7

11. If α and $1/\alpha$ are the zeroes of the polynomial $4x^2-2x+(k-4)$, find the value of k. **Ans. k=8**

12. It being given that 1 is one of the zeroes of the polynomial $7x-x^3-6$. Find its other zeroes.

Ans. 2 and -3

13. α, β are the roots of the quadratic polynomial $p(x)=x^2-(k-6)x+(2k+1)$. Find the value of k. If $\alpha+\beta=\alpha\ \beta$. **Ans. K = -7**

14. Find the zeroes of the polynomial $100x^2-81$. **Ans.** $\pm\frac{9}{10}$

15. Divide the polynomial $p(x)=3x^2-x^3-3x+5$ *by* $g(x)=x-1-x^2$ and find its quotient and remainder.

Ans. $\mathbf{Q}:\ x-2,\ \mathbf{R}=3$

Four Mark Questions

1. If α and β are zeroes of the quadratic polynomial x^2-6x+a; find the value of 'a' if $3\alpha+2\beta=20$. **Ans. a = -16**

2. Check whether the polynomial g(x) = x^3 - 3x + 1 is the factor of polynomial $p(x)=x^5-4x^3+x^2+3x+1$ **Ans. No**

3. Obtain all zeroes of $f(x)=x^4-3X^3-x^2+9x-6$ if two of its zeroes are $(-\sqrt{3})\ and\ \sqrt{3}$.

Ans. 1, 2

4. If α,β,γ are zeroes of polynomial $6x^3+3x^2-5x+1$, then find the value of $\alpha^{-1}+\beta^{-1}+\gamma^{-1}$. **Ans. 5**

5. If α and β are the zeroes of the polynomial x^2-5x+k such that $\alpha-\beta=1$, find the value of K.

Ans. k = 6

6. If α, β are the two zeroes of the polynomial $25p^2-15p+2$, find a quadratic polynomial whose zeroes are $\frac{1}{2\alpha}\ and\ \frac{1}{2\beta}$. **Ans.** $\mathbf{8x^2-30x+25}$

7. Divide $(6+19x+x^2-6x^3)$ by $(2+5x-3x^2)$ and verify the division algorithm.

Ans. $\mathbf{Q=2x+3,\ R=0}$

8. If α, β are the two zeroes of the polynomial x^2-2x-8, then form a quadratic polynomial whose zeroes are $2\alpha\ and\ 2\beta$. **Ans.** $\mathbf{x^2-4x-32}$

9. Prove that x^2+2x+1 divides $x^4-2x^3-4x^2+2x+3$ exactly.

10. If one solution of the equation $3x^2-8x+2k+1$ is seven times the other. Find the solutions and the value of k. **Ans.** $\mathbf{x=\frac{1}{3}\ and\ \frac{7}{3},k=\frac{2}{3}}$

Six Mark Questions

1. What must be added to the polynomial $f(x)=x^4+2x^3-2x^2+x-1$ so that the resulting polynomial is exactly divisible by x^2+2x-3? **Ans. –x+2**

2. Find the zeroes of the polynomial $2x^4-3x^3-3x^2+6x-2$ if $-\sqrt{2}$ and $\sqrt{2}$ are the zeroes of the given polynomial. **Ans. zeros are 1 and ½**

3. If the remainder on division of x^3+2x^2+kx+3 by $x-3$ is 21, find the quotient and the value of k. Hence, find the zeroes of the cubic polynomial $x^3+2x^2+kx-18$.

Ans. $\mathbf{K=-9}$, **factors** $\mathbf{(x^2+5x+6);-2,-3.}$

4. Find all other zeroes of the polynomial $p(x)=2x^3+3x2-11x-6$, if one of its zero is -3.

Ans. x = $\mathbf{-\frac{1}{2}}$**, x = 2**

5. Divide $30x^4+11x^3-82x^2-12x+48$ *by* $(3x^2+2x-4)$ and verify the result by division algorithm.

Ans. $\mathbf{Q=10x^2-3x-12,\ R=0}$

6. Find all the zeroes of the polynomial $x^4-5x^3+2x^2+10x-8$, if two of its zeroes are $\sqrt{2}$, $-\sqrt{2}$.

Ans. 1,4, $\sqrt{2}$ **,** $-\sqrt{2}$

7. Find all the zeroes of the polynomial $x^4+x^3-9x^2-3x+18$, if two of its zeroes are $\sqrt{3}$, $-\sqrt{3}$.

Ans. $-\sqrt{3}$ **,** $\sqrt{3}$ **,-3,2.**

8. Obtain all the zeroes of $x^4-7x^3+17x^2-17x+6$ if two of its zeroes are 1 and 2. **Ans.** $\mathbf{1,1,2,3}$

9. Find all the zeroes of the polynomial $2x^4-10x^3+5x^2+15x-12$, if it is given that two of its zeroes are $\frac{\sqrt{3}}{2}$ and $-\frac{\sqrt{3}}{2}$. **Ans. zeroes are 4, 1,** $\frac{\sqrt{3}}{2}$**,** $-\frac{\sqrt{3}}{2}$**.**

10. Draw the graph of the polynomial $p(x)=x^2-x-6$ and then find its zeroes from the graph.

CHAPTER – 4

PAIR OF LINEAR EQUATION IN TWO VARIABLES

Two Mark Questions

1. Is the system of linear equations $2x+3y-9=0$ and $4x+6y-18=0$ consistent? **Ans. YES**

2. For what value of p will the following system of equations have no solution

$(2p-1)x+(p-1)y=2p+1;\ y+3x-1=0$? **Ans. p=2**

3. Determine a and b for which the following system of linear equations has infinite number of solutions $2x-(a-4)y=2b+1;\ 4x-(a-1)y=5b-1.$ **Ans. a=7, b=3**

4. Determine whether the following system of linear equations has a unique solution, no solution or infinitely many solutions: $4x-5y=3\ and\ 8x-1Oy=6.$ **Ans. infinitely many solution**

5. For what value of k, $2x + 3y = 4$ *and* $(k + 2)x + 6y = 3k + 2$ will have infinitely many solutions? **Ans. k=2**

6. Check whether the given pair of linear equations $x+2y-4=0$ and $2x+4y-12=0$ is intersecting lines or parallel lines.

Four Mark Questions

1. If 4 times the area of a smaller square is subtracted from the area of a larger square, the result is 144 m2. The sum of the areas of tire two squares is 464 m^2. Determine the sides of the two squares. **Ans. 20m, 8m**

2. The age of a father is equal to sum of die ages of his 6 children. After 15 years, twice the age of the father. will be the sum of ages of his children. Find the age of the father. **Ans. 60 years**

3. For what values of a and b does the following pair of linear equations have an infinite number of solutions. $2x+3y=7;\ a(x+y)-b(x-y)=3a+b-2.$ **Ans. a=5, b=1**

4. Rekha's mother is five times as old as her daughter Rekha. Five years later, Rekha's mother will be three times as old as her daughter Rekha. Find the present ages of Rekha and her mother.

Ans. Rekha 5 years, Mother 25 years.

5. Solve for x and y: $99x+101y=499,\ 101x+99y=501$ **Ans. x=3, y=2**

6. Solve for x and y; $37x+43y=117, 43x+37y=123.$ **Ans. x=2, y=1**

7. Solve for x and y; $x+\frac{6}{y}=6, 3x-\frac{8}{y}=5.$ **Ans. x=3, y=2**

8. Solve the following pair of linear equations? $3x + 4y = 10$ and $2x - 2y = 2$ **Ans. x=2, y=1**

9. For what value of k the following system of equations have unique solution

$2x + ky = 1;\ 3x - 5y = 7.$ **Ans.** $k \neq \frac{-10}{3}$

Six Mark Questions

1. Check graphically whether the pair of linear equations $4x-y-8=0$ *and* $2x-3y+6=0$ consistent. Also, find the vertices of the triangle formed by these lines with the x-axis.

Ans. Yes consistent $[2, 0], [-3, 0], [3, 4]$

2. Solve the following equations graphically: $2x + 3y = 12$ *and* $x-y=1.$ Shade the region between the two lines and x-axis. **Ans. x=3, y=2.**

3. Solve graphically the pair of linear equations: $3x+y-3=0;\ 2x-y+8=0$ Write the co-ordinates of the vertices of the triangle formed by two lines with x-axis.

Ans. $x = -1, y = 6;$ **coordinates of Ð** $(1,0), (-4,0), (-1,6)$

4. The sum of a 2 digit number and number obtained by reversing the order of digits is 99. If the digits of the number differ by 3. Find the number. **Ans. 63 or 36**
5. A sailor goes 8 km downstream in 40 minutes and returns in 1 hour. Find the speed of sailor in still water and the speed of current.

Ans. Speed of sailor = 10 km/hr, speed of current = 2 km/hr

6. Two numbers are in the ratio 5:6. If 8 is subtracted from each of the numbers, the ratio becomes 4 : 5 Find the numbers. **Ans. First no. 40, second no 48.**
7. A motor boat travels a distance of 18 kms upstream and travels back to reach the starting point. For up and down trip, it takes 12 hrs. If the speed of the stream is 2 kmph, then find the speed of the boat in still water.(Assume that the motor boat maintains a constant speed).
8. The ratio of incomes of two persons is 9 : 7 and the ratio of their expenditures is 4 : 3. If each of them manages to save 2000rs per month, find their monthly incomes.

Ans. 18000 ₹ and 14000

9. Solve $\frac{2}{x-1}+\frac{3}{y+1}=2$ and $\frac{3}{x-1}+\frac{2}{y+1}=\frac{13}{6}$ where $x\neq 1, y\neq -1$.
10. Solve the equations graphically $3x+4y=10$ and $4x-3y=5$.

CHAPTER – 5 QUADRATIC EQUATIONS

Two Mark Questions

1. Find the value of k for which equation $kx(x-2)+6=0$ has equal roots. **Ans. 6**
2. Find roots of $6x^2-\sqrt{2}x-2=0$. **Ans. x=$\frac{-\sqrt{2}}{3}$**
3. Find the nature of roots of the quadratic equation $\sqrt{2}x^2-\frac{3}{\sqrt{2}}x+\frac{1}{\sqrt{2}}=0$

Ans. D>0. Roots are Real and Distinct

4. Find the roots of the following quadratic equation $6x^2+5x-6=0$ **Ans. x = $\frac{-3}{2},\frac{2}{3}$**
5. If -4 is a root of the quadratic equation $x^2+px-4=0$ and the equation $2x^2+px+k=0$ has equal roots. Find the value of k. **Ans. k=$\frac{9}{8}$**
6. Write all the values of k for which the quadratic equation $2x^2+kx+8=0$, has equal roots. Also find the roots. **Ans. $k=\pm 8, \text{Roots are} \pm 2$**
7. Find the values of k such that the quadratic equation: $x^2-2kx+(7k-12)=0$, has real and equal roots. **Ans. k=3, k=4**
8. Find the value of k such that the quadratic equation: $x(x-2k)+36=0$, has real and equal roots.

Ans. k= ± 6

9. Find the roots of the quadratic equation $3x^2 - 2\sqrt{6}x + 2 = 0$ **Ans.** $\frac{\sqrt{2}}{\sqrt{3}}$

Four Mark Questions

1. Solve the equation for $\frac{x+3}{x-2} - \frac{1-x}{x} = \frac{17}{x}$ **Ans. x=** $4, \frac{9}{2}$

2. Find the roots of the quadratic equation: $2x^2 - 7x + 3 = 0$ **Ans. x=** $3, \frac{1}{2}$

3. The sum of the squares of two consecutive natural numbers is 421. Find the numbers.

Ans. No.s are = 15, 14

4. Solve the following equation: $\frac{2x}{x-3} + \frac{1}{2x+3} + \frac{3x+9}{(x-3)(2x+3)} = 0; x \neq 3, -\frac{3}{2}$ **Ans. x=-1**

5. Solve $\frac{4}{x} - 3 = \frac{5}{2x+3}, x \neq 0, x \neq -\frac{3}{2}$ **Ans. x=+1, x=-2**

Six Mark Questions

1. The sum of ages of father and his son is 45 years. 5 years ago, the product of their ages was 124. Determine their present ages. **Ans. Age of Son=9years, father=36 years**
2. If sum of three numbers in A.P. is 21 and their product is 231. Find the numbers.

Ans. 3,7,11 or 11, 7, 3

3. The numerator of fraction is 3 less than its denominator. If 2 is added to both numerator as well as denominator, the sum of new and original fraction is 29/20, find the fraction. **Ans. 7/10**

4. The hypotenuse of right angled triangle is 6 cm more than twice its shortest side. If third side is 2 cm less than hypotenuse, find the sides of this triangle. **Ans.** $\mathbf{H = 26,\ S_1 = 10cm,\ S_2 = 24cm}$
5. A two digit number is such that, the product of its digits is 18. When 63 is subtracted from the number, the digits interchange their places. Find the number. **Ans=92**
6. A takes 6 days less than the time taken by *B* to finish a piece of work. If both *A* and *B* together can finish it in 4 days, find the time taken by *B* to finish the work. **Ans. 12 days**

CHAPTER - 6 PROGRESSIONS

Two Mark Questions

1. Find the 10th term from the end of the AP 8, 10, 12, …., 126 **Ans. Term = 108**

2. If 8th term of an A.P. is 31 and 15th term is 16 more than 11th term, find the A.P.

Ans. A.P.=3,7,11,15…

3. For what value of p are $2p,\ p+10\ and\ 3p+2$ in A.P.? **Ans. p=6**

4. Find the number of terms of the series: $-5+(-8)+(-11)+\ldots+(-230)$ **Ans. 76**

5. Find the sum of the first 25 terms of an AP whose n[th] term is given by $t_n = 7-3n$ **Ans.** -800

6. Write the GP, if $a=3$ & $r=2$?

7. Which term GP $2, 2\sqrt{2}, 4....$ is 128?

8. Give one example each for an arithmetic progression and a geometric progression.

Four Mark Questions

1. Find the 10[th] term from the end of the A.P. $4,\ 9,\ 14,\ \ldots\ 254$. **Ans. 209**

2. Find the 12[th] term of the A.P. $\sqrt{2}, 3\sqrt{2}, 5\sqrt{2}, ...$ **Ans.** $23\sqrt{2}$

3. Find the sum of the first 50 odd natural numbers. **Ans. 2500**

4. 8[th] term of an A.P. is 37 and its 12[th] term is 57. Find the A.P. **Ans. 2,7,12**

5. Find the sum of first twelve multiples of 7. **Ans. 546**

6. The sum of the 5th and 7th terms of an AP is 52 and its 10th term is 46. Find the AP.

Ans. a=1, d=5

7. The sum of first-three terms of an A.P. is 33. If the product of the first and third term exceeds the second term by 29, find die A.P. **Ans. A.P. = 20,11,2… or 2,11,20…**

8. In ap the 3[rd] term is 24 & 6[th] term is 192. Find the 10[th] term?

Six Mark Questions

1. The sum of the first 'n' terms of an A.P. is $5n^2-3n$. Find the A.P. and hence find its $12th$ term.

Ans. 2,12,22,32,…;a_{12}=112

2. The angles of a triangle are in A.P. The greatest angle is twice the least. Find all angles of the triangle. **Ans.** $40°, 60°, 80°$

3. Find the sum of all natural numbers between 200 and 1000 exactly divisible by 6. **Ans. S=79800**

4. Find the sum of all two-digit odd positive numbers. **Ans. S_n=2475**

5. Which term is the first negative term in the given A.P: $23, 21\frac{1}{2}, 20, ...?$ **Ans. n=17**

CHAPTER – 7 CO-ORDINATE GEOMETRY

Two Mark Questions

1. Find the point on the x-axis which is equidistant from $(2,\ -5)$ *and* $(-2,\ 9)$. **Ans. (-7,0)**

2. Find the value of 'k' for which the point $(8,\ 1)$. $(k,\ -4)$ and $(2,\ -5)$ are collinear. **Ans. k=3**

3. Find the value of k for which distance between $(9,\ 2)$ and $(3,\ k)$ is 10 units. **Ans. (k=10, k=-6)**

4. Find the ratio in which the point $(\frac{-2}{7}, \frac{-20}{7})$ divides the join of $(-2, -2)$ *and* $(2, -4)$. **Ans. 3:4**

5. Find the coordinates of a point on x-axis which divides the line segment joining the points (-2,-3) and (1,6) in the ratio 1:2. **Ans. (-1,0)**

6. The line segment joining the points P (3. 3) and Q (6, - 6) is trisected at the points A and B such that A is nearer to P. If A also lies on the line given by $2x+y+k=0$. Find the value of k.

Ans. k=-8

Four Mark Questions

1. Find the type of triangle formed by points $A(-5, 6), B(-4, -2), C(7, 5)$. **Ans.** $Scalene\,\Delta$

2. If the point A (4,3) and B (x,5) are on the circle with centre O (2, 3). Find the value of x. **Ans**. x=2

3. In what ratio does the point P (2, 5/6) divide the line segment joining the points A (- 3, 5) and B (3, -2).

Ans. 5:1

4. Find the area of a quadrilateral whose vertices, taken in order are

$(-4, -2), (-3, -5), (0, -5)$ *and* $(2, -2)$. **Ans.** $\frac{27}{2}$ **cm²**

5. If $A(-5, 7), B(-4,-5), C(-1, -6)$ *and* $D(4, 5)$ are vertices of quadrilateral $ABCD$, find the area of quadrilateral $ABCD$. **Ans. 72 sq.unit**

6. The mid points of sides of a triangle are $(3,4), (4, 1), (2, 0)$. Find the coordinates of the vertices of triangle. **Ans. (1,3); (5,5); (3,3)**

7. Find the area of the triangle whose vertices are $(5,-2), (3, -5)$ & $(-3, -4)$.

Six Mark Questions

1. Find the coordinates of the points which divide the line segment joining $A(-2, 2)$ *and* $B(2, 8)$ into four equal parts. **Ans.** $\mathbf{P\left(-1,\frac{7}{2}\right), Q(0,5), R\left(1,\frac{13}{2}\right)}$

2. If vertices of triangle are $(2, 4), (5, k), (3, 10)$ and its area is 15 square units, find value of k.

Ans. k=8

3. Find the coordinates of centre of circle passing through the point $(0, 0)$ $(-2, 1)$ *and* $(-3, 2)$.

Ans. $\left(\frac{3}{2}, \frac{11}{2}\right)$

4. If mid points of sides of $\triangle PQR$ are $(1, 2), (0, 1), (1, 0)$, then find the coordinates of the three vertices of triangle PQR. **Ans. (2,1), (0,3), (0,-1)**

5. Find a relation between x and y such that the point P (x, y) is equidistant from the points $A(3, 6)$ *and* $B(-3, 4)$. **Ans.** $\mathbf{3x+y-5=0}$

6. Show That the Quadrilateral obtained by joining the points $(-2,4),(-6,-2),(-2,-8)\&(2,-2)$ is a Rhombus.

CHAPTER – 8 SIMILAR TRIANGLES

Two Mark Questions

1. In figure 1, A, B and C are points on OP, OQ and OR respectively such that AB || PQ and AC ||PR. Show that BC ||QR.

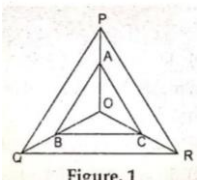


Figure. 1

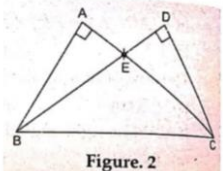


Figure. 2

2. In figure 2, Two triangles ABC and DBC are on the same base BC in which $\angle A = \angle D = 90°$ if CA and BD meet each other at E, show that AE × CE = BE × DE.

3. If the areas of two similar triangles are equal, prove that they are congruent.

4. Prove that the line joining the mid-points of any two sides of triangle is parallel to third side.

5. In figure 3, ABCD is a rhombus. Prove that $4AB^2 = AC^2 + BD^2$

6. In figure 4, D, E, F are mid-points of sides BC, CA, AB respectively of $\triangle$ ABC. Find the ratio of areas of $\triangle$DEF to area of $\triangle$ ABC. **Ans. 1:4**

7. In figure 5, if $\angle$A = $\angle$B and AD = BE show that DE || AB in ΔABC

8. In figure 6, PQR and SQR are two triangles on the same base QR. If PS intersect QR at O then show that $\frac{ar(PQR)}{ar(SQR)} = \frac{PO}{SO}$

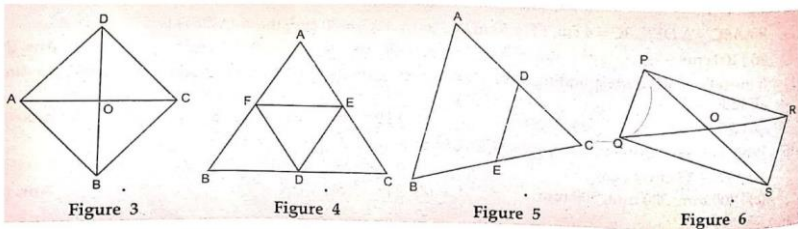


Figure 3 Figure 4 Figure 5 Figure 6

9. In $\Delta ABC, DE \| BC$. If $AD:DB = 2:3, AE = 3x+1$ and $EC = 5x$, then find the value of $'x'$.

Six Mark Questions

1. In ΔABC in figure 1, PQ meets AB in P and AC in Q. If $AP = 1cm, PB = 3cm, AQ = 1.5cm,\ QC = 4.5cm$ prove that area of ΔAPQ is one sixteenth of area of ΔABC.

2. The perpendicular AD on the base BC of ΔABC intersects BC in D such that $BD = 3CD$. Prove that $2AB^2 = 2AC^2 + BC^2$.

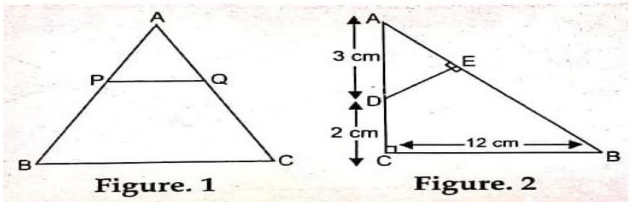


Figure. 1 Figure. 2

3. In the Figure 2, ABC is right angled triangle, right angled at C. $DE \perp AB$. Prove that $\triangle ABC \sim \triangle ADE$ and hence find the lengths of AE and DE.

4. In figure 3, sides XY and YZ and median XA of a triangle XYZ respectively proportional to sides DE, EF and median DB of ΔDEF. Show that $\Delta XYZ \sim \Delta DEF$.

5. In figure 4, $DE \parallel BC$ and $AD:DB = 5:4$, find area $\frac{ar\Delta ADE}{ar\Delta ABC}$. **Ans. 25/81**

6. In ΔPQR, $PD \perp QR$ such that D lies on QR. If $PQ = a,\ PR = b,\ QD = c$ and $DR = d$ and a, b, c, d are positive units, prove that $(a+b)(a-b) = (c+d)(c-d)$.

7. In figure 5, $\angle CED = \angle CAB$ show that $\Delta CED \sim \Delta CAB$. Also find the value of x.

8. In figure 6, XYZ is a triangle right angled at Y, $XY = 6\ cm, \angle XZY = 30°$. Find the length of YZ and ZX.

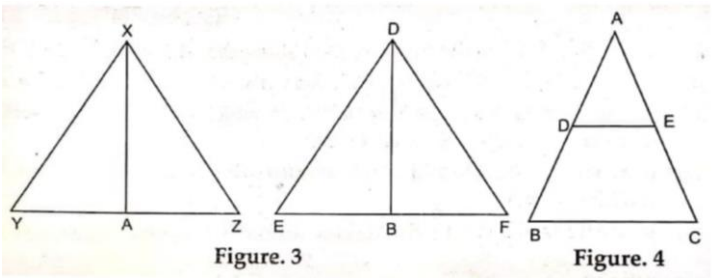


Figure. 3 Figure. 4

Ans. $6\sqrt{3}$ cm, xz = 12 cm

(CONSTRUCTIONS)

9. Draw a triangle ABC with side $BC = 7cm, \angle B = 45°$ and $\angle C = 105°$. Then construct a triangle whose sides are $\frac{3}{4}$ times the corresponding sides of ABC.

10. Draw a circle of radius 6 cm. From a point 10 cm away from its centre, construct the pair of tangents to the circle and measure their lengths.

11. Draw ΔABC with $BC = 6\ cm, \angle B = 60°$ and $\angle C = 45°$. Construct another triangle whose sides are 2/3 of corresponding sides of triangle ABC.

12. Construct a triangle ABC in which $AB = 5\ cm,\ BC = 6\ cm$ and $AC = 7\ cm$. Construct another triangle whose sides are $3/5$ times the corresponding sides of triangle ABC.

13. Construct a triangle PQR, in which $PQ = 4cm, QR = 6cm$ and $\angle PQR = 60^0$. Construct another triangle similar to triangle PQR, with its sides equal to $\frac{4}{3}$ times of the corresponding sides of ΔPQR

CHAPTER – 9 TANGENT AND SECANT TO A CIRCLE

Four Mark Questions

1. Find the area of the shaded region in Fig. 1, if $PQ = 24\ cm,\ PR = 7\ cm$ and *O* is the centre of the circle.

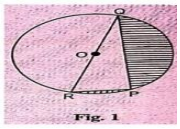


Fig. 1

Ans. $\frac{4523}{28}\text{cm}^2$

2. The length of minute hand of a clock is $14cm$. Find the area swept by the minute hand in 15 minutes. **Ans.** $Area\ = 154\ cm^2$

3. If the perimeter of a semi-circular protractor is 66 cm, find the radius of the protractor.

Ans. $R = \frac{77}{6} cm$

4. What will be the ratio of perimeters of a square and a circle if their areas are equal? **Ans.** $2:\sqrt{\pi}$

5. The length of the minute hand of the clock is $14cm$. Find the area swept by the minute hand from $9:00\ to\ 9:35$. **Ans.** $360\ cm^2\ Approx$.

6. In fig. 36, all three sides of a triangle touch the circle. Find the value of x. **Ans.** $AC = x = 14\ cm$

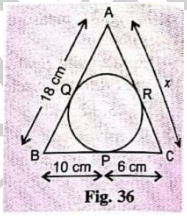


Fig. 36

7. Prove that the parallelogram circumscribing a circle is a rhombus.

8. Two tangents $PA\ and\ PB$ are drawn from an external point P to a circle with centre O. Prove that AOBP is a cyclic quadrilateral.

9. In Fig. 37, a circle is inscribed in a ΔABC with sides $AB = 12\ cm,\ BC = 8\ cm,\ and\ AC = 10\ cm$. Find the length of AD,BE and CF

Ans. $AF = 7cm, CF = 3cm,\ BE = 5.0\ cm$

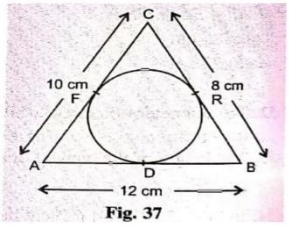


Fig. 37

10. A triangle ABC is drawn to circumscribe a circle of radius 4 cm such that the segments BD and DC into which BC is divided by the point of contact are of lengths 8 cm and 6 cm respectively. If area of $\triangle$ ABC is 84 cm^2, then find the sides of $AB\ and\ AC$.

Ans. $AB = 15\ cm,\ AC = 13\ cm$

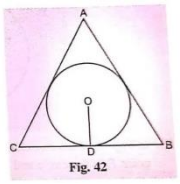


Fig. 42

11. Prove that parallelogram circumscribing a circle is a rhombus.

12. If from an external point B of a circle with centre O, two tangents BC and BD are drawn such that $\angle$DBC=$120°$. Prove that $BO = 2BC$.

13. In fig. 43, PQ is a chord of length 8 cm of a circle of radius 5 cm. The tangents at point P and Q intersect at point T. Find the length of tangent TP.

Ans: $TP = 20/3\ cm$

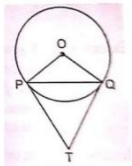


Fig. 43

14. The length of the tangent from a point A at a distance of 15 cm from the centre of the circle is 12 cm. What is the radius of the circle? **Ans.** = 9 cm

15. In a circle of radius 3.5 cm , a chord subtends a right angle at the centre. Find the area of the corresponding major segment. $\left(Take\ \pi = \frac{22}{7}\right)$

Six Mark Questions

1. Prove that the tangents drawn at the ends of a diameter of a circle are parallel.

2. Out of the two concentric circles, the radius of the outer circle is 5 cm and the chord AC of length 8 cm is a tangent to the inner circle. Find the radius of the inner circle. **Ans.** R = 3 cm

3. In the figure 35, $\angle ADC = 90°,\ BC = 38\ cm,\ CD = 28\ cm\ and\ BP = 25\ cm$. Find the radius of the circle. **Ans.** R = 15 cm

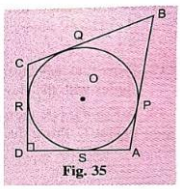
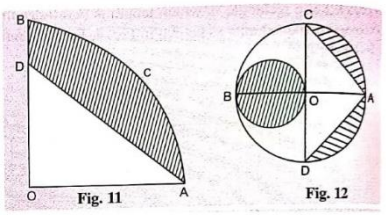


Fig. 35

4. In Fig. 11, $OACBO$ represents a quadrant of a circle of radius 7cm with centre at O. If $OD = 5\ cm$, find the area of the shaded region. **Ans.** 21 cm2

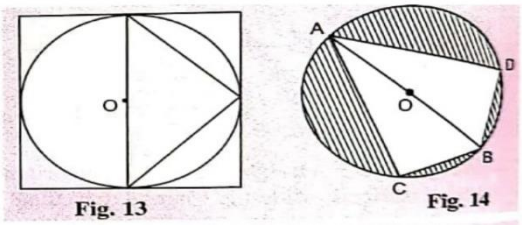
5. In Fig. 12, AB is a diameter of the circle with centre O and $OA = l\ cm$. Find the area of the shaded region.22(Use $\pi = \frac{22}{7}$) **Ans.** $66.5\ cm2$



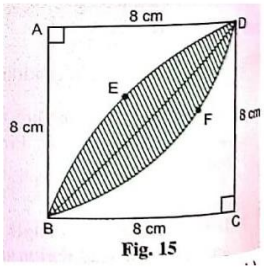
6. In Fig. 13, a circle of radius 7 cm is inscribed in a square. Find the area of the shaded region.

Ans. $91\ cm^2$

7. Find the area of the shaded region in Fig. 14, if $BC = BD = 8\ cm$, $AC = AD = 15\ cm$ and O is the centre of the circle.(Take $\pi = 3.14$) **Ans.** $106.87\ cm^2$



8. In Fig. 15, $ABCD$ is a square of side 8 cm. $CBED\ and\ ADFB$ are quadrants of circle. Find the area of the shaded region. (Use $\pi = 3.14$) **Ans.** $36.48\ cm^2$



9. The length of a rope by which a cow is tethered is increased from $16\ m\ to\ 23\ m$. How much additional area can the cow graze now? [$Use\ \pi = 22/7$] **Ans.** 858 m

10. Construct a pair of tangents to a circle of radius 4 cm inclined at an angle at 45°.

11. Construct two circles of radii 3 cm and 4 cm whose centres are 8 cm apart. Draw the pair of tangents from the centre of each circle to the other circle.

12. Draw a circle of radius 5 cm. From a point 9 cm away from its centre, construct a pair of tangents to the circle.

CHAPTER – 10 MENSURATION

Four Mark Questions

1. Find the number of solid cylindrical structure of radius 7 cm and height 10 cm which can be made from a solid cylinder of radius 7 m and height 10 m. **Ans.** 10,00,000

2. A well of diameter 7 m is dug $22.5\ m$ deep. The earth taken out of it is spread evenly all around it to width of $10.5\ m$ to form an embankment. Find the height of embankment. **Ans.** $H = 1.5m$

3. A right circular cone of height 8.4 cm and the radius of its base is 2.1 cm is melted and recast into a sphere. Find the diameter of the sphere. **Ans.** $diameter = 4.2\ cm$

4. Two cubes each of volume $64\ cm^3$ are joined end to end. Find the surface area of resulting cuboid. **Ans.** $S.A. = 160\ cm^2$

5. Find the number of spherical bullets of radii is 1 mm each that can be made out of a cylindrical solid of radius 4 cm and height 6 cm. **Ans.** 72000

6. A solid cone of radius 4 cm and vertical height 3 cm has to be painted from outside except the base. Find the surface to be painted. **Ans.** $62.8\ cm^2$

7. Find the volume of hemispherical bowl whose radius is 2.8 cm.

Six Mark Questions

1. A solid metallic sphere of diameter 1 m is melted to form small spheres of radius $10\ cm$, find approximately how many such spheres can be formed. **Ans.** $125\ spheres$

2. A spherical solid ball of diameter 21 cm is melted and recast into cubes, each of side $1\ cm$. Find the number of cubes so formed. **Ans.** 4851

3. A solid sphere of diameter 14 cm is cut into two halves by a plane passing through the centre. Find the combined surface area of the two hemispheres so formed. **Ans.** $924\ cm^2$

4. Solid spheres of diameter 6 cm are dropped into a cylindrical beaker containing some water and are fully sub-merged. If the diameter of the beaker is 18 cm and the water rises by 40 cm in the beaker, find the number of solid spheres dropped in the water. **Ans.** 90

5. A cone of height $24cm$ and radius of base 6cm is made up of modelling clay. A child reshapes it in the form of a sphere. Find the radius of the sphere. **Ans.** $6cm$

6. A vessel is in the form of a hollow hemisphere mounted by a hollow cylinder of same radius. The diameter of the hemisphere is $14\ cm$ and the total height of the vessel is $13\ cm$. Find the inner surface area of the vessel. **Ans.** $572\ cm^2$

7. A sphere of radius $6\ cm$ is dropped into a cylindrical vessel partly filled with water. The radius of the vessel is $8\ cm$. If the sphere is submerged completely, then find the increase in level of the water. **Ans.** $4.5\ cm$

8. A metallic vessel is in the shape of a right circular cylinder mounted over a hemisphere. The common diameter is 56 cm and the height of the cylindrical part is 21 cm. Find the capacity of the vessel. $\left(Take\ \pi = \frac{22}{7}\right)$.

CHAPTER – 11 TRIGONOMETRY

Two Mark Questions

1. Find the value of the expression $\frac{\cos 30° + \sin 60°}{1 + \cos 60° + \sin 30°}$ **Ans.** $\pm\frac{\sqrt{3}}{2}$

2. If $\angle$A and $\angle$B are acute angles such that $cosA = cosB$. Show that $\angle A = \angle B$.

3. Evaluate: $\frac{\cos ec^2(90° - \theta) - \tan^2\theta}{4(\cos^2 48 + \cos^2 42°)} - \frac{2\tan^2 30° \sec^2 52° \sin^2 38°}{\cos ec^2 70° - \tan^2 20°}$

4. Prove that $1 + \frac{\cot^2\theta}{1 + \cos ec\theta} = \frac{1}{\sin\theta}$.

5. Evaluate $\frac{2\tan 30°}{1 + \tan^2 45°}$?

6. If $\sqrt{3}\tan\theta = 3\sin\theta$ then prove that $\sin^2\theta - \cos^2\theta = \frac{1}{3}$.

7. If $7\sin^2\theta + 3\cos^2\theta = 4$ then prove that $\sec\theta + \cos ec\theta = 2 + \frac{2}{\sqrt{3}}$.

Four Mark Questions

1. If $\cos ec\theta = \frac{13}{12}$, find the value $\cot\theta + \tan\theta$ **Ans.** $\frac{169}{60}$

2. If $3cotA = 4$, find the value of $\frac{\cos ec^2 A + 1}{\cos ec^2 A - 1}$ **Ans. 17/8**

Six Mark Questions

1. Prove that $\frac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = \left[\frac{1 + \sin\theta}{\cos\theta}\right]^2$

2. Show that $(\text{cosec}\,\theta - \cot\theta)^2 = \frac{1 - \cos\theta}{1 + \cos\theta}$

3. If $\begin{matrix} x = a\sec\theta + b\tan\theta \\ y = a\tan\theta + b\sec\theta \end{matrix}$ Prove that $x^2 - y^2 = a^2 - b^2$.

4. If $\frac{x}{a}\cos\theta + \frac{y}{b}\sin\theta = 1$ and $\frac{x}{a}\sin\theta - \frac{y}{b}\cos\theta = 1$, prove that $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 2$.

5. If $\sin(2A + 45°) = \cos(30° - A)$ Find A. **Ans. A=15^0**

6. If $A + B = 90°$, then prove that $\sqrt{\frac{\tan A\tan B + \tan A\cot B}{\sin A\sec B} - \frac{\sin^2 B}{\cos^2 A}} = \tan A$

7. Prove that $2\sec^2 - \sec^4 - 2\cos ec^4\theta = \cot^4\theta - \tan^4\theta$.

8. Prove that $\frac{\tan\theta}{1 - \cot\theta} + \frac{\cot\theta}{1 - \tan\theta} = 1 + \tan\theta + \cot\theta.$

9. Prove that $\sqrt{\frac{\sec\theta - 1}{\sec\theta + 1}} + \sqrt{\frac{\sec\theta + 1}{\sec\theta - 1}} = 2\cos ec\theta$.

10. Prove that $\sqrt{\frac{1+\sin A}{1-\sin A}} = \sec A + \tan A$.

11. Evaluate: $\frac{2\sin 68°}{\cos 22°} - \frac{2\cot 15°}{5\tan 75°} - \frac{3\tan 45°\tan 20°\tan 40°\tan 50°\tan 70°}{5}$. **Ans. A = 1**

12. Prove that $\frac{\tan\theta + \sec\theta - 1}{\tan\theta - \sec\theta + 1} = \frac{1+\sin\theta}{\cos\theta}$

CHAPTER – 12 APPLICATIONS OF TRIGONOMETRY

Two Mark Questions

1. An observer $1.5\ m$ tall is $28.5\ m$ away from a tower. The angle of elevation of the top of the tower from his eyes is 45°. What is the height of the tower? **Ans. H = – 30 m**

2. A tree breaks due to storm and the broken part bends so that the top of the tree touches the ground by making an angle of $30°$ with the ground. The distance from the foot of the tree to the point where the top touches the ground is $10\ m$. find the height of the tree. **Ans. H = 17.3 m**

3. From a point P on the ground the angle of elevation of the top of a 10 m tall building is 30°. A flag is hosted at the top of the building and the angle of elevation of the top of the flagstaff from P is $45°$. Find the length of the flag staff. [Take $\sqrt{3} = 1.732$] **Ans. 7.32 m**

4. From the top of a $10\ m$ tall tower the angle of depression of a point on a ground was found to be $60°$. How far is the point from the base of the tower? **Ans. $\frac{10\sqrt{3}}{3}$ m**

5. From a point on the ground $120\ m$ away from the base of a pole, the elevation of the top of a pole was found to be $30°$. Find the vertical height of the pole. [Use $\sqrt{3} = 1.732$] **Ans. 69.28 m**

Four Mark Questions

1. The angle of elevation of an aeroplane from a point on the ground is $45°$. After flying for 15 seconds, the angle of elevation changes to $30°$. If the aeroplane is flying at a constant height of 2500 m, find the average speed of the aeroplane. **Ans. 439.2km/h**

2. The shadow of a tower standing on a level ground is found to be $40\ m$ longer when the sun's altitude is 30° than when it is 60°. Find the height of the tower. **Ans. $20\sqrt{3}$ m**

3. A player sitting on the top of a tower of height $20\ m$ observes the angle of depression of a ball lying on the ground as $60°$. Find the distance between the foot of the tower and the ball.

Ans. 11.53mts

4. A kite is flying at a height of $90\ m$ above the ground. The string attached to the kite is temporarily tied to a point on the ground. The inclination of the string with the ground is $60°$. Find the length of the string assuming that there is no slack in the string. [Take $\sqrt{3} = 1.732$]

Ans. 103.92

5. The angle of elevation of the top of a tower at a point on the ground is 45°. After going 40 m towards the foot of the tower, the angle of elevation of the top of tower changes to $60°$. Find the height of the tower. [Use $\sqrt{3} = 1.73$] **Ans. 94.6m**

6. If the shadow of a tower is $30\ m$ long, when the sun's elevation is $30°$. What is the length of the shadow when sun's elevation is 60°? **Ans. 10**

Six Mark Questions

1. As observed from the top of light house, 100 m high above sea-level, the angle of depression of a ship sailing directly towards it, changes from $30°$ to $60°$. Determine the distance travelled by the ship during the period of observation. **Ans. distance = 115.48m**

2. An aeroplane flying horizontally 1 km above the ground is observed at an elevation of 60°. After a flight of 10 seconds, its angle of elevation is observed to be 30° from the same point on the ground. Find the speed of the aeroplane in km/hour. **Ans. Speed = 415.7 km / hr**

3. An aeroplane is flying at a height of $2500\ m$ above the ground. From a point on the ground the angle of elevation of this aeroplane was found to be $60°$. If after 15 seconds of horizontal flight, the angle of elevation changes to $30°$, find the speed of the aeroplane. **Ans.** $\frac{1000}{9}\sqrt{3}$ m/s

4. A man standing on the deck of the ship which is; $10\ m$ above the sea level, observes the angle of elevation of the top of the cloud as $30°$ and angle of depression of its reflection in the sea was found to be $60°$. Find the height of the cloud and also the distance of the cloud from the man.

Ans. H = 20m, d = 20m

5. From the top of a light house the angle of depression of a ship sailing towards it was found to be $30°$. After 10 seconds the angle of depression changes to $60°$. Assuming that the ship is sailing at uniform speed, find how much time it will take to reach the light house. **Ans. 5.0 seconds**

6. From a point on the ground the angle of elevation of the bottom and the top of a flagstaff situated on the top of a $120\ m$ tall house, was found to be $30°\ and\ 45°$ respectively. Find the height of the flagstaff. **Ans.** $120(\sqrt{3}-1)$ mts

7. A person standing on the bank of a river observes that the angle of elevation of the top of the tree standing on the opposite bank is $60°$. When he moves $30\ m$ away from the bank, he finds the angle of elevation to be $30°$. Find the height of the tree and the width of the river. **Ans.** $15\sqrt{3}$

8. The angle of elevation of the top of a building from the foot of the tower is 30^0 and angle of elevation of the top of the tower from the foot of the building is 60^0. If the tower is 100 m high, then find the height of the building.

CHAPTER – 13 PROBABILITY

Two Mark Questions

1. A die is thrown once. Find the probability of getting a prime number. **Ans.** $1/2$

2. One card is drawn from a well shuffled deck of 52 cards. Find the probability of getting a red face card. **Ans.** $3/26$

3. Two dice are thrown together. Determine the probability of two coming on the first die and multiple of three on other die. **Ans.** $P = 1/18$

4. What is the probability that a non-leap year selected randomly will have 53 Sundays

Ans. $P(E) = 1/7$

5. A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability that card drawn is a) Spade or an ace b) Neither king nor queen

Ans. $(a)\frac{16}{52}, (b)\frac{11}{13}$

6. Find the probability of getting a 'vowel' if a letter is chosen randomly from English Alphabet.

Ans. $\frac{5}{26}$

Four Mark Questions

1. A bag contains 5 black, 7 red and 3 white balls. A ball is drawn from the bag random. Find the probability that the ball drawn is a) Black or white b) Not black **Ans.** $(i)\frac{8}{15}, (ii)\frac{2}{3}$

2. Two dice are thrown at the same time. Find the probability of I. Same number on both the dice II. Different number on both the dice **Ans.** $(i)\frac{1}{6}, (ii)\frac{5}{6}$

3. Two coins are tossed simultaneously, find the probability of getting

(i) One head (ii) at most one head. **Ans.** $(i)\frac{1}{2}, (ii)\frac{3}{4}$

4. A bag contains 4 green, 5 white, 7 black and 3 red balls. A ball is taken out of the bag at random. Find the probability that the ball taken out is (i) red (ii) not black. **Ans.** $(i)\frac{3}{19}, (ii)\frac{12}{19}$

5. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability that the card drawn is neither a red card nor a queen. **Ans. p=6/13**

6. All the three face cards of spades are removed from a well-shuffled pack of 52 cards. A card is then drawn at random from the remaining pack. Find the probability of getting.

a) A black face card b) A queen c) A black card **Ans.** $(a)\frac{3}{49}, (b)\frac{3}{49}, (c)\frac{23}{49}$

Six Mark Ouestions

1. A box contains 17 cards numbered $1,2,3,\ldots,16,17$. A card is drawn at random from the box. Find the probability that the number on the drawn card is:

(a) Odd (b) even and prime (c) divisible by 3 **Ans.** $\mathbf{(a)\frac{9}{17},(b)\frac{1}{17},(c)\frac{5}{17}}$

2. King, queen and jack of hearts are removed from a pack of 52 playing cards and card is drawn from the remaining cards. Find the probability of getting a card of

(i) hearts (ii) queen (iii) not a king **Ans.** $\mathbf{(i)\frac{10}{49},(ii)\frac{3}{49},(iii)\frac{46}{49}}$

3. Three coins are tossed simultaneously. Find the probability of getting.

(a) Three heads (b) exactly 2 heads (c) at least 2 heads. **Ans.** $\mathbf{(a)\frac{1}{8},(b)\frac{3}{8},(c)\frac{1}{2}}$

4. A child has a die whose six faces show the letters as given below: A B C D E A

The die is thrown at random once. What is probility of getting (i) A (ii) E.? **Ans.** $\mathbf{(i)\frac{1}{3},(ii)\frac{1}{6}}$

5. Find the probability that a non-leap year chosen at random has

(i) 52 Sundays (ii) 53 Sundays **Ans.** $\mathbf{(i)\frac{6}{7},(ii)\frac{1}{7}}$

6. An urn contains 8 red, 6 white, 4 black balls. A ball is drawn at random from the urn. Find the probability that the drawn ball is.

(i) Red or white (ii) neither black nor white **Ans.** $\mathbf{(i)\frac{7}{9},(ii)\frac{4}{9}}$

7. A bag contains 19 cards, bearing numbers $1,2,3,\ldots,19$. A card is drawn at random from the bag. Find the probability that number on the drawn card is:

(i) Prime (ii) Divisible by 3 **Ans.** $\mathbf{(i)\frac{8}{19},(ii)\frac{6}{19}}$

8. Cards marked with numbers 2 to 101 are placed in a box. They are mixed thoroughly and one card is selected randomly from the box. Find the probability that the number on the selected card is:

(i) An even number
(ii) A number less than 14
(iii) A number which is a perfect square
(iv) A prime number less than 20

CHAPTER – 14 STATISTICS

Two Mark Questions

1. Calculate the mean for the following frequency distribution.

Class-interval	0-4	4-8	8-12	12-16
Frequency	4	8	5	6

2. Fine out the mode for the following data showing frequency with which profits are made:

Profits(in '000 rs)	3-4	4-5	5-6	6-7	7-8	8-9	9-10
Frequency	83	27	25	50	75	38	18

3. Find the median of the following series:

Wages(₹)	0-25	25-50	50-75	75-100	100-125	125-above
No. of persons	10	30	40	25	20	15

4. Compute the mean of the following distribution

x	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
f	20	24	32	28	20	16	17	10	18

5. Compute the mean for following data:

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Frequency	24	42	56	66	108	130	154	140

Four Mark Questions

1. Find the mode of the given data

Class interval	0-20	20-40	40-60	60-80
Frequency	15	6	18	10

Ans. 52

2. Write the frequency distribution table for the following data:

MARKS	BELOW 10	BELOW 20	BELOW 30	BELOW 40	BELOW 50	BELOW 60
No. of students	0	12	20	28	33	40

Ans.

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	0	12	8	8	5	7

3. Find the mode of the following data:

Class	10-20	20-30	30-40	40-50	50-60
Frequency	7	12	20	11	8

Ans. 34.7

4. The mean of the following data 7.5, Find the value of *p.*

x_i	3	5	7	9	11	13
f_i	6	8	15	p	8	4

Ans. p=3

5. A survey conducted on 20 households in a locality by a group of students resulted in the following frequency table for the number of family members in a household.

Family Size	1-3	3-5	5-7	7-9	9-11
Number of Families	7	8	2	2	1

Find the mode for the data above: **Ans. Mode = 23 / 7**

6. Find the mean of the following frequency distribution:

Class	0-10	10-20	20-30	30-40	40-50
Frequency	8	12	10	11	9

Ans. Mean = 25.2

7. Convert the following data to a less than type distribution.

Class Interval	50-55	55-60	60-65	65-70	70-75	75-80
Frequency	2	8	12	24	38	16

Ans.

Less than	50	55	60	65	70	75	80
Frequency	0	2	10	22	46	84	100

8. Write the formula for mode of a grouped data and explain each term of it.

Six Mark Questions

1. During the medical checkup of 35 students of a class, their weights were recorded as follows. Draw a less than type ogive for the given data. Hence obtain medium weight from the graph.

Weight (in kg)	**No. of students**
Less than 38	0
Less than 40	3
Less than 42	5
Less than 44	9
Less than 46	14
Less than 48	28
Less than 50	32
Less than 52	35

Ans. Median = 46.5

2. Find unknown entries a, b, c, d, e, f in the following distribution of heights of students in a class and the total number of students in the class in 50.

Height in cm	150-155	155-160	160-165	165-170	170-175	175-180
Frequency	12	b	10	d	e	2
Cumulative Frequency	a	25	c	43	48	f

Ans. $\mathbf{a = 12, b = 13, c = 35, d = 8, e = 5, f = 50}$

3. Find the mode of the following frequency distribution:

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Students	4	8	10	12	10	4	2

Ans. Mode = 45

4. The mean of the following frequency distribution is 54. Find the value of p:

Classes	0-20	20-40	40-60	60-80	80-100
Frequency	7	P	10	9	13

Ans. P=11

5. Find the median for the following frequency distribution:

Class interval	10-19	20-29	30-39	40-49	50-59	60-69	70-79
Frequency	2	4	8	9	4	2	1

Ans. Median = 40.6

6. Following distribution shows the mark obtained by the class of 100 students.

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	10	15	30	32	8	5

Draw less than ogive for the above data. Find median graphically and verify the result by actual method. **Ans. Median = 38.33**

7. Find mean for the following data.

Class Interval	60-70	70-80	80-90	90-100	100-110	110-120	120-130
Frequency	2	5	12	31	36	10	4

Ans. Mean = 99

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PHYSICAL SCIENCE

CHAPTER – 1: REFLECTION OF LIGHT AT CURVED SURFACES

Two Mark Questions

1. What is the radius of plane mirror?
2. Relate the focal length *f* and radius of curvature R.
3. Why do we use convex surface for side view mirror?
4. Name the type of mirror which always forms:
   a. Virtual Image for a real object b. Virtual and Diminished Image
5. Define focal length, Radius of curvature, Centre of curvature, Principal axis, Pole, Focus.
6. Give two uses of a concave mirror.
7. State Snell's law.
8. Write any two uses of each convex and concave mirrors.

Four Mark Questions

1. An object is placed at a distance of 12 cm in front of a concave mirror. It forms a real image four times larger than the image. Calculate the distance of image from mirror?
2. An object is placed at a distance of 10 cm before a concave mirror, whose radius of curvature is 8 cm. Find the image distance?
3. Name the type of mirror used in the following situations:
   a. Head Lights of a car b. Solar Cooker c. Side/Rear view mirror of a vehicle.
4. Magnification of a concave mirror is -1. Find position of object and position of image. Also mention the characters of the image.
5. Distinguish between convex and concave mirror?
6. How do we locate the position of image in a plane mirror? Show with an example.
7. We have to form an erect image of an object placed in front of a concave mirror of focal length 15 cm. Draw the ray diagram

Six Mark Questions

1. A small candle 2.5 cm in size is placed 27 cm in front of concave mirror of radius of curvature 0.36 m. At what distance from the mirror should a screen be placed in order to receive a sharp image? Describe the nature and size of the image. If the candle is moved closer to the mirror, how would the screen have to be moved?
2. State the relation between object distance, image distance and focal length of a spherical mirror.
3. A convex mirror with a radius of curvature of 3 m is used as rear-view mirror for a vehicle. If a bus is located at 5 m from this mirror, find the position, nature and size of the image?

CHAPTER – 2 CHEMICAL EQUATIONS

Two Mark Questions

1. Which substance is oxidized and which is reduced in the following reaction:

$2Al(s)+6HCl(aq)\rightarrow 2AlCl_3(aq)+3H_2(g)$

2. What happens when milk is left at room temperature during summers?

3. What happens when magnesium ribbon burns in presence of air? Write the chemical equation.

4. What is rancidity and corrosion?

5. Draw a diagram showing the arrangement of apparatus for electrolysis of water?

Four Mark Questions

1. What is the difference between displacement and double displacement reactions? Give one example for each.

2. Classify each of the following as combination, decomposition, displacement or double displacement reaction:

- $2KNO_3(s)\rightarrow 2KNO_2(s)\rightarrow O_2(g)$
- $N_2(g)\rightarrow 3H_2(g)\rightarrow 2NH_3(g)$
- $Zn(s)\rightarrow 2AgNO_3(aq)\rightarrow Zn(NO_3)_2\rightarrow 2Ag(s)$
- $C\rightarrow H_2O\rightarrow CO\rightarrow H_2$

3. What information do we get from a chemical equation? Explain with the help of an example.

4. Write the formula of

(i) Ammonium carbonate (ii) Calcium phosphate (iii) Nickel sulphide (iv) Aluminium chloride

5. What is meant by oxidation and reduction?

6. What do you mean by exothermic and endothermic reaction? Explain.

Six Mark Questions

1. Mention the products, write balanced chemical equation when 112 g. of propane (C_3H_8) is combusted. Calculate the mass of the carbon-di-oxide evolved in the reaction. (Atomic mass of **carbon** is 12U, Atomic mass of **oxygen** is 16U and Atomic mass of **hydrogen** is 1U).

2. (i) A solution of substance 'X' is used for testing Carbon dioxide. Identify 'X'. What will be its reaction with carbon dioxide? Write balanced chemical equation for the reaction. (ii)A shiny brown coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and black coloured compound formed.

3. Write the balanced equation for the following chemical equations:

- *Hydrogen + Chlorine → HydrogenChloride*
- Barium chloride + Aluminium Sulphate → Barium Sulphate → Aluminium chloride
- *Sodium → Water → Sodium Hydroxide + Hydrogen*
- *Zinc + Silver Nitrate → Zinc Nitrate + Silver*

4. Explain the following with a suitable example

(i) Ionic equation (ii) Double displacement reaction (iii) Redox reaction

(iv) Photo chemical reaction (v) Displacement reaction

5. On heating blue coloured powder of copper (I) nitrate in a boiling tube, copper oxide (black), oxygen gas, and a brown gas X is formed.

(a) Write a balanced chemical equation of the reaction.

(b) Identify the brown gas X evolved. (c) Identify the type of reaction.

(d) What could be the pH range of the aqueous solution of the gas X?

CHAPTER – 3 ACIDS, BASES AND SALTS

Two Mark Questions

1. What is bleaching powder?

2. Dry ammonia gas has no action on litmus paper, but a solution of ammonia in water turns red litmus paper blue. Why is it so?

3. Why should water be never added drop wise to concentrated sulphuric acid?

4. Why is pure water not a good conductor of electricity?

5. Write the names and formulae of any two chemicals obtained from common salt?

6. What are olfactory indicators? Give some examples.

7. Why are some perishable food items preserved in vinegar?

8. What are antacids? Give two Example.

9. What is meant by Electrolysis?

Four Mark Questions

1. Name the gas evolved when dilute sulphuric acid reacts with sodium carbonate. Write the chemical equation for the reaction involved.

2. Name the acid formed when (i) CO_2 is dissolved in water. (ii) SO_2 is dissolved in water. What names are given to the two separate sodium salts of the acid in case of SO_2?

3. What is the chemical name of washing soda? Write few uses of washing soda.

4. State the chemical property in each case on which the following uses of baking soda are based:

(i) As an antacid (ii) As a constituent of baking powder.

5. How is Plaster of Paris obtained? What reaction is involved in the setting of a paste of plaster of Paris?

6. What is meant by the tern ‘pH of a solution’? The pH of gastric juices extracted from the stomach of two persons A and B were found to be 1 and 3 respectively. The stomach juice of which person is more acidic?

Six Mark Questions

1. List out the materials required in the experiment of hydrogen gas is evolved when metals react with acids / bases. Mention the precautions to be taken and experimental procedure.
2. (a) Write the chemical name and formula of bleaching powder.
   (b) Write chemical equation to represent the action of dilute hydrochloric acid on bleaching powder.
3. What is observed when:
   (i) Dilute sulphuric acid is added to solid sodium carbonate.
   (ii) Hot concentrated sulphuric acid is added to sulphur.
   (iii) Sulphur dioxide is passed through lime water?
   Also write chemical equations to represent the chemical reaction taking place in each case.
4. (i) What is the action of litmus paper on:
   (a) Dry ammonia gas. (b) Solution of ammonia gas in water.
   (ii) State the observations you would make on adding ammonium hydroxide to aqueous solutions of (a) Ferrous sulphate (b) Aluminium chloride.
5. Differentiate between 'strong' and 'weak' electrolytes.

CHAPTER – 4 REFRACTION OF LIGHT AT CURVED SURFACES

Two Mark Questions

1. Does the value of speed of light change with medium?
2. Write the relation between the refractive index and the speed of light in the medium.
3. What is the cause of refraction of light?
4. Write the Len's formula
5. What is an Image?
6. Define the angle of incidence.
7. Is it possible to form a real image using a real object with a concave lens?
8. What is the emergent angle of light after refraction in a glass slab?

Four Mark Questions

1. When a convex lens is focused on a distant object, where will the image be formed? Show it with a ray diagram.
2. What is the nature of image formed by a convex lens when the object is between the focus and optical centre? Draw a ray diagram for the same.
3. What is the meaning of (i) optical centre and (ii) principal focus?
4. When we focus sunlight using a convex lens at the tip of a matchstick, what will happen? Why?
5. Show by the use of a ray diagram, that a concave lens always diverges light.
6. Write the lens formula and the sign convention used.

7. When does a convex lens form (i) a virtual, erect and enlarged image (ii) real and enlarged image?
8. What is the meaning of power of a lens? What is its SI unit?
9. When two lenses of focal length +10 cm and -5 cm are placed in contact, find the net power.
10. How is power related to focal length? Find the power of a concave lens of focal length 50 cm.

Six Mark Questions

1. An object is placed 25 cm distance from a concave lens of 20 cm of focal length. Draw the ray diagram and mention the characteristics of the image formed.
2. A concave lens has focal length of 20 cm. At what distance from the lens a 5 cm tall object be placed so that it forms an image at 15 cm from the lens? Also calculate the size of the image formed.
3. An object 50 cm tall is placed on the principal axis of a convex lens. Its 20 cm tall image is formed on the screen placed at a distance of 10 cm from the lens. Calculate the focal length of the lens.
4. An object 20 cm tall is placed on the principal axis of a convex lens. Its 30 cm tall image is formed on the screen placed at a distance of 10 cm from the lens. Calculate the focal length of the lens.
5. An object 30 cm tall is placed on the principal axis of a convex lens. Its 10 cm tall inverted image is formed on the screen placed at a distance of 15 cm from the lens. Calculate the focal length of the lens.
6. A convex lens has a focal length of 30 cm. Calculate at what distance should the object be placed from the lens so that it forms an image at 60 cm on the other side of the lens. Find the magnification produced by the lens in this case.
7. (i) Draw a ray diagram to show passage of two rays of light through a rectangular slab of glass, When the angle of incidence is zero in one case and a little less than 90° in other case.
   (ii) Prove that if a ray enters a rectangular glass slab obliquely and emerges from the opposite face, the emergent ray will be parallel to the incident ray.

CHAPTER – 5 HUMAN EYE AND THE COLORFUL WORLD

Two Mark Questions

1. What is the role of retina?
2. Name the cells that respond to intensity of light.
3. Which cell is responsible for colour perception?
4. What is the main function of ciliary muscles?
5. What is Pupil?
6. Give the role of iris.

7. When do we say a person is colour-blind?
8. Name the four common defects of vision.
9. What is Myopia?
10. What is the problem in Hypermetropia?
11. How will you correct a myopic eye?
12. What is the remedy for Hypermetropic eye?
13. How can you overcome Presbyopia?
14. Where do we use cylindrical lenses?
15. What is the value of least distance of distinct vision for a young adult with normal vision?
16. How long does the light from an event stay in our eye?
17. A Doctor suggested to use +2D power lens to correct a person's eye defect. Then find the focal length of the lens.

Four Mark Questions

1. State the reason for the following observations recorded from the surface of moon.
   (i) Sky appears dark (ii) Rainbow is never formed.
2. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to enable him to see very distant objects distinctly?
3. Why does it take some time to see objects in dim light when you enter the room from bright sunlight outside?
4. How is the amount of light entering the eye controlled? What change is made in the eye to enable it to focus on object situated at different distances?
5. What is short-sightedness and long-sightedness? How can these defects be corrected?
6. If an eye has near point at a distance of 0.5 m, what is the power of lens required to correct it?
7. If the far point of eye lens is 10 metre, find the power required to correct the defect.
8. Calculate the magnification of a glass of focal length 5 cm, when the image is formed at the distance of distinct vision.
9. What are Rods and Cones?
10. Write about the importance of ciliary muscles.
11. Define the terms: (i) near point (ii) far point.
12. What is the cause for Myopia?
13. What causes Hypermetropia?
14. What types of lenses are used to correct presbyopia? Give reason.

Six Mark Questions

1. Draw a labelled diagram of human eye and explain the image formation.
2. What is the cause for (i) Myopia and (ii) Hypermetropia?
   Show the defective eye and explain how it is corrected?

3. Discuss the following problems in the vision of human eye giving corrective measures:
   (i) Myopia and (ii) Hypermetropia
4. If the person, in the previous problem, uses spectacles of power + 1.0 dioptre, what is the nearest distance of distinct vision for him?
5. A 14 year old student is not able to see clearly the questions written on the black board placed at a distance of 5 m from him.
   (a) Name the defect of vision he is suffering from? (b) Draw the diagram to this defect
   (c) Name the type of lens used to correct this defect.(d) Name two possible causes of this defect.
   (e) Draw the diagram to show how this defect can be corrected.

CHAPTER – 6 STRUCTURE OF ATOM

Two Mark Questions

1. What do you mean by nlx method?
2. Write the four quantum numbers of the differentiating electron in Sodium?

Four Mark Questions

1. Draw the shape of electromagnetic spectrum?
2. Write a note on principal quantum number?
3. Draw the boundary pictures of 'S' and 'P' orbitals?
4. What is an orbital? How is it different from Bohr's orbit?

Six Mark Questions

1. Draw the shape of all the orbitals which represents the quantum numbers n=3,l=2.
2. Mention Bohr's postulates based on Hydrogen spectrum?
3. Discuss the reasons why Sommerfield introduced elliptical orbits?

CHAPTER – 7 CLASSIFICATION OF ELEMENTS-THE PERIODIC TABLE

Two Mark Questions

1. An element ‘B’ belongs to the second period and Group 13. Give the formula of its oxide.
2. Give two examples of elements of Groups 1, 2 and 16.
3. What are the names of Group 1 and Group 17 elements?
4. What is the number of valence electrons in the last element of the 3rd period?
5. How many elements are there in the 4th period?
6. An element belongs to the 2nd period and Group 14. Is it metal or non-metal? Why?
7. How does the reactivity of elements vary down the groups 1 and 17?
8. Which one has the bigger Size: Na (11) or Cl (17); Cl (17) or F (9)?
9. Which one has the smaller size: Na (11) or Cl (17); or Cl (17) or F (9)?
10. Which of the halogens has the highest electron affinity?

11. Which element in the second period has the highest ionisation energy?

Four Mark Questions

1. Answer the following question by using the below data

2^{nd}period elements	Li	Be	B	C	N	O	F
Atomic number	3	4	5	6	7	8	9
Atomic radius (in pm)	152	111	88	72	74	66	64
Electro negativity (in ev)	1.0	1.47	2.0	2.5	3.0	3.5	4.0

i. How does the capacity of loosing electrons changes in 2^{nd} period from left to right.

ii. How does atomic size changes in the 2^{nd} period?

iii. Mention the valance shell of the elements from Li to F.

2. Which group of periodic table N (7) and P (15) belong to? Give their valancies.

3. Explain why atomic number is more important than atomic weight in determining chemical properties.

4. (i) A metal of group 2. (ii) A metal of group 13.
(iii) Two non-metals of group 16. (iv) Most reactive non-metal of group 17.

5. Give four advantages of the periodic table.

6. State two advantages of Mendeleev's Periodic Table.

7. Give four characteristics each of groups and periods.

Six Mark Questions

1. Define Ionisation energy. First ionisation energy of two elements A and B are 500 kJ mol^{-1} and 375 kJ mol^{-1} respectively. Comment about their relative positions in a group as well as in a period.

2. What discrepancies were there in Mendeleev's Periodic Table?

3. Why did Mendeleev leave some gaps in the periodic table of elements? Give your answer with examples.

4. Explain why the properties of the 8th element are repeated in case of elements arranged in 2nd and 3rd period of the long form of the periodic table.

5. Define (i) electron affinity and (ii) ionisation energy.

6. Two elements X and Y belong to groups 1 and 2 respectively in the same period. Compare them with respect to a) the number of valence electrons b) valency c) metallic character d) Size of the atoms.

7. The atomic number of an element is 16. Predict its

a) a) Valency.

b) Group number.

c) Whether it is a metal or a non-metal?

d) Nature of the oxide formed.

e) Name of the element.

8. Write the electronic configurations of atoms of

(a) potassium (K), (b) lithium (Li), (c) fluorine (F) (d)chlorine (Cl).

Atomic number of K is 19, Li is 3, F is 9 and of Clis 17.

Use these electronic configurations to explain why potassium is more reactive than lithium and fluorine is more reactive than chlorine**.**

CHAPTER – 8 CHEMICAL BONDING

Two Mark Questions

1. Which defect of VSEPRT has been explained by valence bond theory?

2. Draw the shape of NH_3 and write its bond angle?

3. Represent H_20 with Lewis dot structure?

4. What is Hybridization?

5. Which electron configuration represents an excited state for an atom of calcium?

Four Mark Questions

1. Explain the polar covalent bond with one suitable example.

2. Draw a diagram to show that the formation of covalent bond by overlapping P-orbital of an element with S-orbital of another element?

3. Why are valence electrons involved in bonding?

4. Explain the formation of BeC*l*2 by hybridization?

5. Which factors decide the type of bond formed between two atoms?

Six Mark Questions

1. Explain the formation of NaC*l* and $MgCl_2$ molecules?

2. Write the differences between ionic and covalent substances?

3. Show the following with Lewis dot structure

i. Calcium Chloride ii. Carbon dioxide

4. Explain the formation of N2based on valence bond theory?

CHAPTER – 9 ELECTRIC CURRENT

Two Mark Questions

1. What is the S.I. unit of electric potential?

2. What is meant by the statement, “Potential difference between points A and B in an
3. There are two electric bulbs (i) marked 60 W, 220 V and (ii) Marked 100 W, 220 V. Which one of the two has a higher resistance?
4. Out of the two, a toaster of 1 kW and an electric heater of 2 kW, which has a greater resistance?
5. Name a metal which offers higher resistance to the passage of electricity other than copper.
6. Which has a higher resistance: a 50 W lamp bulb or a 25 W lamp bulb and by how many times?
7. Why is tungsten metal selected for making filaments of Incandescent lamp bulbs?
8. A wire of resistance 10 Ω is bent in the form of a closed circle. What is the effective resistance between the two points at the ends of any diameter of the circle?

Four Mark Questions

1. An electric iron has a rating of 750 W, 220 V. Calculate
   (i) Current passing through it, and (ii) its resistance, when in use.
2. (i) Draw a diagram to show how two resistors R_1, and R_2 are connected in series.
   (ii) In a circuit of two resistors 5Ω and 0Ω. Connected in series, how does the current passing through the two resistors compare?
3. A bulb is rated at 5.0 volt, 100 mah. Calculate its (i) power and (ii) resistance.

Six Mark Questions

1. List out the material required to verify the Ohm’s law experiment. Mention the precautions to be taken in the experiment and write the experimental procedure.
2. (a) State Ohm’s Law.
   (b) Draw a schematic diagram of the circuit for studying Ohm’s Law.
3. (i) Draw a schematic diagram of a circuit consisting of
   a battery of five 2V cells, a 5Ω resistor, a 10Ω resistor and a 15Ω resistor, and a plug key, all are connected in series.
   (ii) Calculate the electric current passing through the above circuit when the key is closed.

CHAPTER – 10 ELECTRO MAGNETISM

Two Mark Questions

1. What constitutes the field of a magnet?
2. How can you show that the magnetic field produced by a given electric current in the wire decreases as the distance from the wire increases?
3. How will you use a solenoid to magnetise a steel bar?
4. How can it be shown that a magnetic field exist around a wire through which a direct electric current is passing?

5. How is the strength of the magnetic field at a point near a wire related to the strength of the electric current flowing in the wire?
6. In what situation do we use Fleming's right hand rule?
7. An alternating electric current has a frequency of 50Hz. How many times does it change its direction in one second?
8. What will be the frequency of an alternating current if its direction changes after every 0.01 s?
9. State the rule to determine the direction of magnetic field around a current carrying conductor.

Four Mark Questions

1. What is meant by the term "magnetic field lines"? List any two properties of magnetic field lines.
2. With the help of neat diagram describe how you can generate induced current in the circuit.
3. What is the difference between direct and alternating currents? Write one important advantage of using alternating current.
4. State Faraday's law.

Six Mark Questions

1. Explain the working process of induction stove and security system by using Faraday's law of electromagnetic induction.
2. How does the strength of the magnetic field at the centre of a circular coil of wire depend on :
   (i) In the radius of the coil (ii) the number of turns of wire in the coil
   (iii) The strength of current flowing in the coil?
3. The flow of a current in a circular loop of wire creates a magnetic field at its centre. How many existence of this field be detected? State the rule which helps to predict the direction of this magnetic field.
4. Draw the pattern of field lines due to a bar magnet. Mention any two properties of the magnetic field lines.
5. Draw the pattern of lines of force due to magnetic field associated with a current carrying straight conductor. State how the magnetic field produces changes.
   (i) With an increase in current in the conductor and (ii) the distance from the conductor.
6. Draw the pattern of field lines due to solenoid carrying electric current. Mark the north and South Pole in the diagram.

CHAPTER – 11 PRINCIPLES OF METALLURGY

Two Mark Questions

1. Which one of the following metals does not react with oxygen even at high temperatures?
   a) Calcium b) Gold c) Sodium

2. Name any one metal which reacts neither with cold water nor with hot water but reacts with heated steam to produce hydrogen gas.
3. Write the chemical equation for the reaction of hot aluminium with steam.
4. Why is tungsten metal selected for making filaments of incandescent lamp bulbs?
5. Write the chemical equation to represent the reaction taking place between sodium metal and cold water.
6. Write the chemical equation to represent the reaction taking place when copper oxide is heated in a stream of hydrogen. (Give chemical reaction).
7. What happens if rusting of metals does not prevent ?

Four Mark Questions

1. In nature, aluminium is found in the form of its compounds while gold is found in free state. Give reasons.
2. Name the alloys which are used for the following purposes.
   (i) For soldering joints
   (ii) For making windows and door fittings
   (iii) For making aircrafts and kitchen wares
   (iv) For making equipment's for feed and dairy industry.

Six Mark Questions

1. Explain the following terms by giving one example of each:
   a) Mineral b) Ore c) Gangue
2. (i) Explain the term, 'roasting 'as used in metallurgical processes. Give1 suitable example for it.
   (ii) What changes take place when Cinnabar (HgS) is heated in air for a long time?
3. What is an alloy? Name the constituents of 22-carat gold. Why is24-carat gold converted to 22-carat gold?
4. (a) Name an important ore of iron. Write its formula. (b) How is this ore concentrated?
5. Give reasons for each of the following: (i) Germanium is called a metalloid.
   (ii) Zirconium is known as a strategic metal. (iii) Nitrogen is used to preserve food.
6. Explain the process of experiment, to obtain zinc by electrolysis?
7. Draw a flow chart showing the different stages involved in extraction of a metal form its ore?
8. What is thermite process? Mention any two applications of this process in our daily life?
9. Describe an activity to show that the corrosion of metal requires moisture and air?
10. Draw a neat diagram of reverberatory furnace and label it.

CHAPTER – 12 CARBON AND ITS COMPOUNDS

Two Mark Questions

1. Give the names of the functional groups:

(i) $-CHO$ (ii) $-\overset{|}{C}=O$

2. Give the names of the following functional groups:

(i) -OH (ii) -COOH

3. Name the product other than water formed on burning of ethanol in air.

4. Name the functional group present in propanone (acetone).

5. Name the organic compound, which can be produced by fermentation of sugar and is a constituent of beer.

6. Name the classes of organic compounds represented by the following formulae :

7. Write the formulation for the functional groups of alcohols and carboxylic acids.

8. Write the (i) name and (ii) formula of the functional group present in the compound, CH_3COOH.

9. Name the main products formed when:

(i) Ethanol is oxidized by an alkaline solution of KMn04.

(ii) Sodium ethanoate is heated with soda lime.

10. How are the molecules of aldehydes and ketones structurally different?

11. Complete the following reaction equation S: $CH_3CH_2OH + Na$

12. Give an example of a reaction catalysed by an enzyme.

13. Write names of any two alkenes.

14. The structural formula of an ester is

15. Write the molecular formula of the alcohol and the acid from which it would have been formed.

Four Mark Questions

1. Mention the differences between Alkanes and Alkenes.

2. Write the structural formula of two isomers of *n*-pentane C_5H_{12}.

3. Select alkenes and alkynes from the following: C_6H_{12}, C_3H_4, C_2H_4, CH_4, C_4H_8, C_5H_8.

4. What happens when Hydrogen gas is passed through mustard oil in presence of nickel? Mention one difference between physical property of mustard oil and the product so obtained.

5. Define isomers. Give one example.

6. What is the IUPAC name of $(i)\ CH_3-CH_2-CH=CH_2 (ii)\ CH_3CHO$

7. What is meant by term homologous series? What is the general formula of alkanes?

8. Classify the following as alkane, alkene and alkynes: CH_4, C_2H_4, C_2H_2, C_2H_6, C_3H_4. Give reasons for the formation of large number of carbon compounds.

9. How is an ester prepared in the lab? Write its one use in our daily life.

10. What is a synthetic detergent? Give one example of synthetic detergent. Write its two advantages over soap.

11. Why is mixture of water and alcohol used instead of water in radiators of vehicles in cold countries?

12. State any two uses of alcohols

13. Give two differences between soap and synthetic detergents.

Six Mark Questions

1. Explain why soaps are not effective cleansing agents in hard water.

2. Name the functional groups present in the following compounds :

$a)\ CH_3CH_3CH_2-OH$ $b)\ CH_3CH_2CH_2COOH$ $c)\ CH_3-CH_2-CHO$ $d)\ CH_3COCH_2CH_2CH_3$

3. Give the names of the following :(i) an aldehyde derived from ethane (ii) a ketone derived from butane.

4. What are detergents chemically? Why are they more effective than soaps in cleansing action? How can detergent molecules be altered to make them biodegradable?

5. Write one example each to illustrate the following:(i) Fermentation (ii) Esterification

6. Write the formula for the given compounds and name the functional groups present in each of them :(i) Ethanoic acid (ii) Propanone (iii) Nitromethane

7. (a) Write the chemical equation representing the preparation reaction of ethanol from ethene.

(b) Name the product obtained when ethanol is oxidised by either chromic anhydride or alkaline potassium permanganate.

(c) Give an example of an esterification reaction.

8. Define the term, 'fermentation'. Name the enzyme which converts

(i) Milk into curd (yogurt) (ii) cane sugar into glucose and fructose, and

(iii) Glucose into ethanol.

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BIOLOGICAL SCIENCE

CHAPTER – 1 NUTRITION (FOOD SUPPLYING SYSTEM)

Two Mark Questions

1. Write the general principles to be followed in Daily life to avoid indigestion problem.
2. Why upper surface of leaves is more green and shiny than the lower one?
3. What happens if roughages are absent?
4. If we keep on increasing CO_2 concentration, what will be the rate of photosynthesis?
5. Which phase is called biosynthetic phase? Why
6. What are the consequences due to less secretion of saliva in the mouth of a person?
7. Name the organelle in which photosynthesis occurs?
8. Name the mode of nutrition in amoeba with diagram.
9. Why it is better to call the dark phase of Photosynthesis as a light independent phase.
10. Leaves prepare substance $'A'$ through photosynthesis. It converts into $'B'$.What are$'A'$,and$'B'$.
11. Why KOH is used in Mohl's half leaf experiment?
12. Name the two stages of photosynthesis.
13. Why is nutrition necessary for an organism?

Four Mark Questions

1. What are the connecting substances between light reaction and dark reaction?
2. How fats are digested in our body? Where does this process take place?
3. What is the role of saliva in the digestion?
4. Draw a diagram representing nutrition in Amoeba?
5. Name any two autotrophic plants which also show heterotrophic mode of nutrition. Why do they need to do so?
6. Bring out the differences between internal respiration and external respiration.
7. What are the apparatus required to prove oxygen is released in Photosynthesis?
8. With the help of chemical equation, explain the process of Photosynthesis?
9. What is malnutrition? Explain some nutritional deficiency diseases?

Six Mark Questions

1. Explain the procedure and precautions of an experiment which proves the presence of starch in leaves.
2. Does the malnutrition is the reason for diseases? Why? Write any one of such disease and it's character?
3. With the help of chemical equation, explain the photosynthesis in detail.
4. Draw a labelled diagram of human digestive system. List out the parts where peristalsis takes place?
5. What are the functions of digestive enzymes? Prepare a table?
6. Compare the process of nutrition in plants and animals?
7. List two differences between 'Holozoic nutrition' and 'saprophytic nutrition'. Give two examples of each of these two types of nutrition.
8. How does the butter in your food get digested and absorbed in the body? Explain in detail.

9. Nutrition in autotrophs occurs when there is light and even without light also. What is difference between these two situations?

10. Explain the structure of chloroplast with a neatly labelled sketch?

11. (a) Explain why the rate of photosynthesis in plant is low both of lower higher temperatures.

(b) Is green light most or least useful in photosynthesis and why?

CHAPTER – 2 RESPIRATION (THE ENERGY RELEASING SYSTEM)

Two Mark Questions

1. What happens if transpiration does not takes place in tall trees?

2. Why does the rate of respiration changes from time to time?

3. Why does the air become more moist in the nasal cavity?

4. Which organelle in a cell is associated with the production of energy by aerobic respiration?

5. Why mitochondria is called as 'Powerhouse of the cell'?

6. What happens when lactic acid is accumulated in the muscles?

7. What happens if CO2 is not expelled during exhalation?

8. Name the respiratory organs of: (i) *Fish* (ii) *Mosquito* (iii) *Earthworm* (iv) *Cockroach*

9. What is breathing?

10. What is fermentation?

Four Mark Questions

1. Food sometimes enters the wind pipe and causes choking. How does it happen?

2. How does gaseous exchange take place?

3. Draw a picture to show the exchange of gaseous take place in alveoli?

4. Why is it harmful to respire through mouth than through nasal openings?

5. Prepare a table about the respiratory organs in different animals?

6. You have given sprouts, glass jars, and thermometer. What experiments will you conduct with these?

7. How do you appreciate the respiration in mangrove plants and write the steps to conserve its Bio-diversity?

8. Write any two points of difference between respiration in plants and respiration in animals.

9. State the functions of (i) Diaphragm and (ii) Alveoli

10. What is the major differences between the respiratory system in males and females?

Six Mark Questions

1. How does gaseous exchange take place at blood level?

2. What is the advantage of wet and warm conditions of respiratory tract on the way from the nostrils to capillaries?

3. How do you appreciate the mechanism of respiration in our body?

4. Why does the rate of breathing increase while walking uphill at a normal pace on the mountains? Give two reasons?
5. Describe the mechanism of breathing in human beings.
6. Draw a well labelled diagram of mitochondria?
7. What is the pathway taken by air in the respiratory system? Illustrate with a labelled diagram?
8. How is 'respiration' different from breathing? Explain the process of 'aerobic' respiration and 'anaerobic' respiration.

CHAPTER – 3 TRANSPORTATION (THE CIRCULATORY SYSTEM)

Two Mark Questions

1. Write the materials required to observe internal structure of mammalian heart.
2. Describe about the arteries and their functions?
3. What are the functions of lymph?
4. Why is there a 'lub-dub' sound when the heart beats?
5. How can you define the word Edema?
6. Name the term for transport of food from leaves to other parts of plants.
7. Name the type of blood vessels which carry blood from organs to the heart.
8. Name two kinds of cells (elements) of xylem.
9. Name the largest artery in the human body.
10. Explain the classification of blood vessels on the basis of thickness?
11. What is the importance of pulmonary artery and pulmonary vein?
12. What are the similarities between blood and lymph?
13. What are brownian movements? What is the use of it?

Four Mark Questions

1. What is root pressure? How is it useful to plants?
2. What is the inference about experiments with aphids?
3. Point out differences between an artery and a vein.
4. What will happen if we don't know the blood groups of the donor and recipient before the blood transfusion?
5. Describe the mechanism of blood clotting.
6. What is the relation between blood and plasma?

Six Mark Questions

1. Explain the cardiac cycle.
2. Write differences between
   a) Systole - Diastole b) Veins - Arteries c) Xylem - Phloem.
3. How can you prove that water is transported through the xylem?
4. Which items do you take into consideration to explain the differences of arteries and veins?

5. While going to school, Anil fell down. His knee was injured. Bleeding appeared at the site of injury. After sometimes the bleeding stopped. He wondered at the clotting of blood at the site of injury. How was it happened? Explain?
6. What have you done to know the internal and external features of the heart?
7. What is called pumping station in human body? Explain its structure with suitable diagram
8. Draw a root; showing relationship of root hair and soil water.
9. Explain the way how plants get water by osmosis through root hair?
10. Draw a block diagram to explain single and double circulations? Write differences between them?
11. If the valves in veins of the legs fail to stop the flow of blood what could be the consequences of this failure?
12. State differences between artery, vein and capillary.
13. a) State two structural differences between an artery and a vein.
    b) Name a non-nucleated cell present in human blood and state on function of this cell.
    c) Draw a labelled diagram of human heart.
14. a) Name the blood vessel that brings oxygenated blood to the human heart.
    b) Which chamber of human heart receives oxygenated blood?
    c) Explain how oxygenated blood from this chamber is sent all parts of the body.

CHAPTER – 4 EXCREATION (THE WASTAGE DISPOSING SYSTEM)

Two Mark Questions

1) What is micturition?
2) Write about the composition of urine?
3) How liver acts as an excretory organ in our body?
4) What are secondary metabolites?
5) Name the excretory unit of a kidney.
6) What are primary metabolites?
7) Name the different part of the large intestine of humans in their natural sequence.
8) In winter season excessive repeated urination occurs. Why does it happen?

Four Mark Questions

1. How plants manage the waste materials?
2. Name the plants in your village which are using to prepare bio diesel?
3. Write excretory organs in different animals in a tabular column?
4. Draw a neat diagram of excretory system in human being?
5. State the two vital functions of the human kidney. Name the procedure used in the working of artificial kidney.
6. What consequences will occur if there is no tubular reabsorption in the nephrons of kidneys?
7. Why the Urine is slightly thicker in summer than in winter?
8. What happens if waste materials are not sent out of the body from time to time?
9. What are the reasons for bed wetting of children during the sleep?

10. Write the health tips for protection of kidneys?

Six Mark Questions

1. Write the differences for the following
a) Excretion and Secretion b) Primary and Secondary metabolites

2. Describe the structure of the renal tubule with neatly labelled diagram?

3. Write a note on lymphatic system in human beings stating two major functions of lymph.

4. Briefly describe the mechanism of urine formation.

5. In which excretory system much water is reabsorbed? What happens if it doesn't occur?

6. Dialysis is a technical boon to some people whose kidneys are not working properly. Write an article on this to publish in a paper?

7. Draw a neat labelled diagram of L.S kidney?

CHAPTER – 5 COORDINATION (THE LINKING SYSTEM)

Two Mark Questions

1. Charan entered the theatre. The picture had already begun. Charan was unable to find his seat initially. Why?

2. Write the function of hormone 'thyroxine' in our bodies.

3. Which hormone is responsible for the development of moustache and beard in men?

4. What are the functions of cerebrum?

5. What is meant by autonomous nervous system?

6. How does synapse form? What are the functions of synapse?

7. Why is the outer surface of brain is in grey colour and the inner surface white?

8. Draw the different stages of stimulus and response?

9. Write about the islets of langerhans?

10. What are non-myelinated fibres? What is neuron?

Four Mark Questions

1. Observe the following table and answer the questions given below.

Endocrine Glands	Hormones	Effect of hormones
Adrenal	Adrenaline	Emotions
Pituitary	Somatotrophin	Growth
Ovary	Estrogen	Secondary sexual Characters
Testes	Testosterone	Secondary sexual Characters

i. Which hormone is exclusively present only in females?

ii. Which hormone is responsible for the development of secondary sexual characters in males?

iii. Identify the endocrine glands present in both males and females?

2. Write the functions of gibberelic acid?
3. How does feedback mechanism controls anger?
4. What questions you can pose to know the endocrine glands?
5. Name the two hormones secreted by pancreas. Write one function of each hormone named.
6. Explain 'reflex action' with a suitable example.
7. List the functions of Testosterone and Estrogen.
8. Write the information on the actions controlled by spinal cord?
9. Raju planted a bitter gaurd plant. But he doesn't make the arrangements for the creeper to take support what will be the result?
10. What happens if you keep a potted in to your home?
11. Draw a Neuron and label the parts.

Six Mark Questions

1. Suggest an experiment to show how roots grow away from light in most places?
2. What procedures do you follow to understand the effect of plant growth hormones in the terminal position of the tip of the stem?
3. Draw neatly labelled diagram of brain and write few points how it is protected.
4. Draw a neat diagram of neuron and label the parts and write the functions of Axon?
5. Draw a diagram which shows the two roots of spinal cord? Write the functions of two roots of spinal cord?
6. Give an example and explain how plants may immediately respond to a stimulus?
7. Write a conversation between diabetes and insulin?
8. How are the tropic movements help in the daily life?
9. What is a reflex action? Give its two examples. Illustrate the pathway followed by a message from the receptor in a flex are.
10. (a) What are 'hormones'?
    (b) List four characteristics of hormones.
    (c) Name the hormone required for the following:
    i. Functioning of memory glands. ii.Regulation of calcium and phosphate in blood.
    iii. Lowering of blood glucose. Iv. Development of moustache and beard in human

CHAPTER – 6 REPRODUCTION

Two Mark Questions

1. Name any two sexually transmitted diseases.
2. Which one of the following is NOT a part of the organ- system to which the other three belong?
3. Name the type of fission carried out by Amoeba.
4. Write the expanded form of AIDS.
5. What is vegetative propagation?
6. What is double fertilisation?

7. How Do Organisms Reproduce?

8. Write the full form of IUCD.

9. Write the full expansion of HIV.

10. Why do testes in mammals descend into scrotum?

11. List the general characteristics of the pollen grains of wind pollinated plants.

12. List two functions performed by ovaries in a human female.

Four Mark Questions

1. Draw a diagram of longitudinal section of a pistil showing pollen germination and label the following parts.

I. Style II. pollen tube

2. Mention any two functions of human ovary.

3. What is the significance of pollination?

4. Describe menstrual cycle.

5. Differentiate between menarche and menopause.

6. Write the full form of IUCD, AIDS, and HIV.

7. Draw a diagram to show the structure of a flower.

8. Name the different parts (in sequence) forming the duct system of human male reproductive system. What is the duct system for?

9. What is menopause?

10. What are the functions of sex hormones?

11. Define the term unisexual and bisexual giving one example of each.

12. Mention secondary sexual characters in human male and female.

13. Define sexually transmitted disease and give two examples.

14. Explain the significance of the conditions in humans in which the testes remain suspended in scrotum outside the abdominal cavity.

15. Leaves of Bryophyllum fallen on the ground produce new plants whereas the leaves of rose do not. Why?

Six Mark Questions

1. Write any five modes of asexual reproductions in living organisms.

2. Draw the labelled diagram of Datura flower and explain essential organs.

3. (i) What is fertilisation? Distinguish between external fertilisation and internal fertilisation.
(ii) What is the site of fertilisation in human beings?

4. (i) Which are the two main types of reproduction in living organisms?
(ii) Classify the following under these two types: Amoeba, Frog, Earthworm, Yeast.

5. What are the male and female gonads in human beings? State any two functions of each of them.

6. What is vegetative propagation? When is it used? Name three methods of vegetative propagation.

7. Differentiate between 'self-pollination and cross Pollination'. Describe 'double fertilisation in plants.

8. Define any three of the following terms used in relation to human reproduction:

(i) Fertilisation (ii) Implantation (iii) Placenta (iv) Gestation (v) Parturition

9. (i) When does ovulation occur during the menstrual cycle in a normal healthy female?

(ii) Draw a labelled diagram to show the reproductive system of a human female.

8. Name any two sexually transmitted diseases (STDs). How do these infectious diseases spread from one person to another? Give two symptoms of STDs.

9. Define the terms unisexual and bisexual giving one example of each.

10. Explain double fertilisation in plants.

11. Draw a diagram of a flower to show its male and female reproductive parts. Label on it:

a. The ovary b. The anther c. The filament d. The stigma

CHAPTER – 7 COORDINATION IN LIFE PROCESS

Two Mark Questions

1. How does belching occur?
2. If we take excess food, what will happen to stomach?
3. How does peristalsis occur?
4. Why HC/ is released in the stomach?
5. How does the absorption of food takes place?
6. How is bolus formed in the gut?
7. Which teeth are used when you eat peas and banana?
8. Write the reasons for burning sensation in throat during vomiting**.**

Four Mark Questions

1. If glucose level falls in blood, why we feel hungry?

2. Why the stomach is structured like a bag rather than like a tube?

3. Draw the schematic diagram of a villus?

4. What happens if salivary ducts are closed?

5. Write the differences between Bolus and Chyme?

6. Suggest a simple experiment to prove the role of palate in recognizing taste.

7. If there is any reason for the intestine to be coiled with many folds, in what y during the process of digestion?

Six Mark Questions

1. Explain the procedure and observations of an experiments “Action of Saliva on Flour.”

2. Write the difference between small intestine and large intestine?

3. Draw a neatly labelled diagram of showing peristaltic movement in oesophagus. Explain the mucus on the walls of food pipe.

4. Describe organs and systems participating in digestion. Write their functions briefly.

5. How do the different process coordinate from mouth to anus? Explain them in tabular form?
6. Draw a figure showing peristaltic movement of bolus?
7. What is mastication? Explain the role of teeth in this process?
8. List out the sphincter muscles of the food canal you have observed and give a brief description.
9. What experiments should you perform to understand action of saliva on flour? Explain its procedure and apparatus that you followed.
10. Draw schematic diagram of villus?

CHAPTER – 8 HERIDITY (FROM PARENT TO PROGENY)

Two Mark Questions

1. Do off spring's and their parents have the same traits?
2. What is gene flow?
3. Define characteristic of organisms.
4. What are the various kinds of fossils?
5. What is environmental selection?
6. What is acquired trait?
7. Define speciation.
8. What is artificial selection?
9. What is the basis of evolution?
10. What is adaptation?
11. What is phylogeny?
12. What type of reproduction give rise to more number of successful variations?

Four Mark Questions

1. Write any three evidences to prove the Darwin's Theory of Evolution.
2. Name one organ analogous to the wing of bird. Why are they both analogous? Can you include the wing of bat also with them under the same category? Give reason.
3. Mention any four details that can be inferred about organisms from their fossils.
4. Explain with reasons why the alveoli are covered with blood capillaries?
5. What are fossils? Of what interest are fossils to the evolutionary biologists?

Six Mark Questions

1. What are homologous organs? How do they provide evidence in support of evolution?
2. What is the significance of homologous and analogous organs in the process of evolution?
3. Explain with an example, how evolutionary relationship linked to classification.
4. How are fossils formed?
5. Explain various stages of evolution
6. How human evolution took place over the years?

7. Who was Mendel? Why was he called the 'Father of Genetics'?
8. Define the term 'heredity'. In which types of organisms is heredity supposed to be better defined - in sexually reproducing or asexually reproducing kind? Why?
9. Explain how a new species is generated.

CHAPTER – 9 OUR ENVIRONMENT

Two Mark Questions

1. What is meant by the term 'Environment'?
2. Which two of the following belong to the same trophic level?
   a) Grasshopper, Frog, Grass, Lizard. b) Goat. Grass, Crow, Squirrel.
3. Rearrange the following according to their ascending trophic levels in a food chain : Hawk, Grass, Snake, Rabbit.
4. If a harmful chemical enters a food chain comprising fishes, phytoplanktons and birds, which of the organisms is likely to have minimum concentration of the harmful chemicals in its body?
5. In the following food chain 20 J of energy was available to the hawks. How much would have been present in the plants?

   Plants —> Rats —> Snakes —> Hawks
6. State one difference between autotrophs and heterotrophs
7. Write a food chain in a forest ecosystem.
8. Name any two non-biodegradable wastes.
9. Name any two biodegradable substances.

Four Mark Questions

1. State any four environmental problems caused by man.
2. Explain why there are greater chances of accumulation of harmful chemicals in the body of human beings.
3. What is the importance of the ozone layer?
4. How is ozone layer useful to us?
5. Name some of the damaging effects of the ultra-violet rays on the animal and plant life on earth.
6. What is meant by the depletion of ozone layer? How is it caused?
7. How can biodegradable substances work as pollutants? Bring out the meaning of the term 'biodegradable'?
8. Give the foil form of CFC. Name any three sources of CFC.
9. Write a note on CFCs.
10. Describe any four modes of disposal of waste.
11. What is biological magnification? If the concentration of DDT were 0.2 ppm in water of a lake, what would be its likely concentration in fish in the following food chain?

    Plankton —> Fish —> Fish-eating birds.
12. Write the food chain operation in a fresh water pond. Mention the food habit of each trophic level in this food chain.
13. How depletion of ozone layer caused and what are is its effect on our environment?

14. What are decomposers? Write the role of decomposers in the environment.

15. What are biotic and abiotic components?

16. Define man-made ecosystem. Name two natural and two man-made ecosystems?

17. How does natural replenishment of soil take place?

18. Why food chain normally consists of 3 or 4 steps only?

Six Mark Questions

1. Draw the pyramid of numbers in a pond eco system and explain?

2. What is ten per cent law? Explain with an example which energy flows through different trophic levels.

3. How would you dispose the following wastes?
(i) Domestic wastes like vegetable peels. (ii) Industrial wastes like metallic cans.
(iii) Plastic material.

4. Write the cause of depletion of ozone layer in the atmosphere.

5. "Vegetarian food habits can sustain a larger number of people." Justify the statement in terms of food chain.

6. Name the radiations absorbed by ozone layer. Give any two causes of the depletion of the ozone layer. Name the disease likely to be caused due to depletion.

7. With the help of an example, involving four organisms, describe how energy flows from different trophic levels?

8. (a) What is 'environmental pollution'?

(b) Distinguish between biodegradable and non- biodegradable pollutants.

(c) Choose the biodegradable pollutants from the list given below:
Sewage, DDT, radioactive waste, agricultural waste.

CHAPTER – 10 NATURAL RESOURCES

Two Mark Questions

1. Name any elements that are used in fabricating solar cells.

2. Which two components of sunlight are not visible to us?

3. Name the nuclear process that is responsible for the explosion of atom bomb.

4. Name the nuclear process that is responsible for release of energy by the sun.

5. Name the nuclear process by which energy is produced in the sun.

6. Name two main, combustible components of biogas.

7. How is slurry leftover after generation of biogas in gobar gas plant used?

8. How sunlight is converted to heat in a box type solar cooker?

9. Name any one element that is used in making solar cells. On what property of the element in this use based?

10. What is the usefulness of wildlife?

11. What is meant by petroleum? What does it contains.

12. Give two uses of coal. (fossils)

13. What is biodiversity?

14. What is the significance of biodiversity?

15. What is coliform?

16. What does presence of coliform in water indicate?

17. What is the course of the Ganga?

18. What is pollution?

19. Name the major constituent of natural gas.

20. State the energy transformation taking place when a boy is ridding a bicycle.

21. Name the type of nuclear reaction which is responsible for the explosion of a hydrogen bomb.

22. What are fossil fuels?

23. What is meant by management and conservation natural resources?

Four Mark Questions

1. Write any three measures to be followed to conserve natural resources in your daily life.
2. What is meant by forest conservation?
3. Why should we protect forests and wild life?
4. Give your view point about the conservation of natural resources.
5. Why is water considered as the most valuable natural resources?
6. Construction of a dam on a river often results in the reduction of fish catch. Why is it so?
7. How would the setting up of a factory on the bank of a river affect the population downstream?
8. What happens if natural resources decrease rapidly?
9. Prepare a flow chart on water resources in our state?
10. Write 3 slogans to enlighten the cycle usage?
11. Forest is a renewable resource'. Do you agree? Justify?

Six Mark Questions

1. What practices are followed for conservation and protection of environment?

2. How does the water of the Ganges get polluted?

3. What are dams? Why are dams built?

4. Write a note on conservation of forests.

5. What are the benefits of water harvesting? What are the advantages of groundwater?

6. What is Greenhouse effect? State two advantages and two disadvantages of this effect.

7. Name the three R's to save the environment. Explain each of them.

8. Why do we require to manage our resources?

9. 'Economic growth and ecological conservation should go hand in hand'? Explain why.

10. Why is it necessary for judicious use of fossil fuels?

11. Explain what causes the wind to blow in equatorial regions. What is wind energy?

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SOCIAL STUDIES

IMPORTANT POINTS

Shivalik: The Southern most range of the Himalayas are the Shivaliks. It is also known as Churia Hills.

Purvanchal: The Himalayas that are situated on the north-eastern boundary of India is called Purvanchal ranges.

Public Facilities: These are the basic facilities like education, food, health, electricity, sanitation, safe drinking water, shelter, security etc., that are given collectively by the Government

Gross Domestic Product (GDP): It is a monetary measure of the market value of all the final goods and services produced in a specific time period, often annually.

Final Goods: In economics, any commodity which is produced and subsequently consumed by the consumer, to satisfy his current wants or needs, is a consumer **good** or **final good**. Consumer **goods** are **goods** that are ultimately consumed rather than used in the production of another **good**.

Sectoral goods: Goods belonging to different sectors like food, clothing, beverages, and automobiles.

Employment shifts: Change of employment from agricultural sector to industrial and service sectors.

Climograph: It shows average monthly values of maximum and minimum temperature and rainfall for a given place.

Monsoon The climate of India is strongly influence by the monsoon winds and the regular periodic reversals of winds that blow towards the Indian coast. The word monsoon is derived from Arabic word **"mausam"** which means rhythm of seasons

Drought: Scarcity of rainfall leading to dryness of land. It is an event of prolonged shortages in the water supply, whether atmospheric (below-average precipitation), surface water or ground water.

Watershed: A line of high land where streams on one side flow into one river and streams on other Side flows into another river.

Fertility rate: Fertility rate is a term use to refer to the capacity of people in a given region to give Birth. It is calculated per the number of women who are the child bearing age group. Presently, it is 2.7 In India.

Infanticide: The act of killing of a new born child. Infanticide usually committed by their parents or by others with Parents consent.

Migration: Moving of people from one place to another in search of employment and facilities. Migrations arises out of various social, economic, or political reasons.

Immigration: Migrated into and settled in a foreign country.

Border: The line that divides two countries.

Boundary: Limits or border of an area.

Factors of Production: Land, labour, capital and organization.

Labour: People who do the work. Those who do not have a right over the crops grown on the land but are paid wages are farm labourers**.**

Working Capital: Capital requirement for raw material and money for other expenditure.

Nation State: Countries interlink in trade and political issues.

Foreign Investment: The investments made by the MNC's and other foreign institutions.

Foreign Trade: Exports and imports.

Nutrition: Food necessary for growth and health. Food is required by the body for all its functions- for growth and the capacity to remain healthy and fight illness.

People's Right: Rights of the people, they are legal, social or ethical principles of freedom.

Militarism: The belief that a country should maintain a strong military capacity and be prepared to use it aggressively to depend or promote national interest.

Fascism: It is a form of radical authoritarian nationalism that came to prominence in early 20th Century in Italy.

Imperialism: Imperialism is the policy of extending a nation authority by a territorial acquisition or by the establishment of economic and political hegemony over other nations.

Socialism: A political and economic theory of social organization which advocates that the means of production, distribution and exchange should be owned or regulated by the community as a whole.

Communism: A theory or system of social organization in which all property is owned by the community and each person contributes and receives according to their ability and needs

Centralization of Power: It is one in which power or legal authority is exerted or coordinated itself only is called centralization of power.

Weaponisation: Deploying of weapons.

Draft age: Send people somewhere for a special task.

Segregation: Practice of compelling different racial groups to live apart from each other.

Civil Disobedience: The refusal to obey laws, pay taxes, nonviolent opposition to law or other government policy by refusing to comply with it.

Civil Rights: Rights guaranteed by law.

Ethnic Conflict: Conflict between two groups on the bases of religion or race. It can take place within a country and between the countries.

Peace: Friendly environment among the countries and no scope for a war.

CHAPTER – 1 INDIA: RELIEF FEATURES

Two Mark Questions

1. What are called 'Perennial Rivers'?
2. What is the time difference between Indian standard time and Greenwich standard time?
3. Why do we often use the term "Indian Peninsula"?
4. Identify the difference between Babar and Terai?

Four Mark Questions

1. What Is the Influence of Himalayas on the climate of India?
2. What are the reasons for the high density of population in Indo-Gangetic Plains?
3. The sun rises two hours earlier in Arunachal Pradesh as compared to Gujarat in the west. But the clocks show that same time. How does it happen?
4. What are the major physiographic divisions of India? Contrast the relief of the Himalayas region with that of the peninsular plateau.
5. Difference between peninsular plateau and Himalaya regions?

Six Mark Questions

1. Contrast the relief of the Himalayan region with that of the Peninsular plateau?
2. What is the influence of the Himalayas on Indian Agriculture?
3. Indo- Gangetic planes have high density of population. Find the reasons?
4. How are the eastern coastal planes and western coastal planes similar or different?
5. Describe the importance of geographical location of India?
6. Classify the Himalayan river system and write about any one of the river system.

CHAPTER – 2 IDEAS OF DEVELOPMENT

Two Mark Questions

1. What criteria World Bank has taken for measuring the countries?
2. What is the location of Kudankulam nuclear project?
3. If women are engaged in work, in what way the family gets benefit?
4. What is Human Development?
5. What is IMR?
6. What do you mean by public facilities?

Four Mark Questions

1. Why do we use averages? Are there any limitations to their use?
2. What do you mean by development?
3. What are the issues of conflict between government and the people living in the regions of nuclear power plant?
4. Do these two statement mean the same thing? Justify your answer.

5. Give some examples where factors other than income are important aspects of our lives.
6. What is the main criterion used by the World bank in classifying different countries? What are the limitations of the above criterion, if any?

Six Mark Questions

1. Why do you think parents accord less priority to girls education as compared to boys?
2. What is the relationship between Women's work outside their homes and gender bias?

CHAPTER – 3 PRODUCTION AND EMPLOYMENT

Two Mark Questions

1. What are the three sectors of economy?
2. What is organized sector and unorganized sector?
3. What is Gross Domestic Product?
4. What is organized sector?

Four Mark Questions

1. Differentiate the organised and unorganized sectors of economy?
2. How is the Service sector different from other sectors?
3. Organized and Unorganized sector?
4. What do you understand by underemployment? Explain with an example each from the urban and rural areas.
5. The worker in the unorganized sector needs protection on the following issues: wages, safety and health. Explain with examples.
6. What do you mean by development?

Six Mark Questions

1. The workers in the unorganised sector need protection on the wages, safety and health. Explain with examples?
2. What are the differences between the organised sector and the unorganised sector?
3. Now a days, in which economic sector, the job opportunities are increasing? Give reasons.

CHAPTER – 4 CLIMATE OF INDIA

Two Mark Questions

1. How does the latitude affect climate?
2. What are Jet streams?
3. What is Climograph?
4. What is global warming?
5. What is deforestation?
6. Does deforestation happen only in forest areas? How about in your local area, even if there are no forests?

Four Mark Questions

1. Describe India's climate controls?
2. How are the human activities contributing to the global warming?
3. What are some other ways in which human action contributes to global warming?
4. Write a short note on factors influencing climatic variations in hilly areas and deserts?
5. What are disagreements between developed and developing countries about AGW?

Six Mark Questions

1. How is climate change causing global warming? Suggest measures to minimize the influence of the global warming?

CHAPTER – 5 INDIAN RIVERS AND WATER RESOURCES

Two Mark Questions

1. Why the 70% of surface water resources are polluted?
2. What are the aims of the WALTA Act?
3. What is meant by perennial rivers?
4. What are the main characteristics of peninsular river?
5. What is transpiration?
6. What is meant by evapotranspiration?
7. Write few features of the peninsular river system?

Four Mark Questions

1. Water is to be considered as common pool of resource. Explain?
2. Which aspects of farming practices were regulated in the context of Hiware Bazar to improve the water conservation?
3. Sources of water pollutants?

Six Mark Questions

1. What are the different inflow and out flow processes has most impact in the context of ground water resources?

CHAPTER – 6 INDIA – POPULATION

Two Mark Questions

1. How does literacy impact on development?
2. What is Population Density?
3. What is Sex Ratio?
4. What literacy rate?
5. Define urbanization?

Four Mark Questions

1. Distinguish between Population growth and Population change?
2. List out the impacts on society if sex ratio is too low or too high?
3. What is Literacy Rates?
4. How is an agricultural labourer different from a cultivator?
5. Which areas of Telangana have high density of population and what may be some of the reasons behind it?

Six Mark Questions

1. What are the causes for high density of population in some areas of our country?

CHAPTER – 7 SETTLEMENTS – MIGRATIONS

Two Mark Questions

1. What is aerotropolis?
2. What is a Settlement?
3. Why do people migrate from rural areas?
4. What is Emigration Act?

Four Mark Questions

1. How did human life change with settlement?
2. Compare and contrast the migration from rural to urban and urban to rural areas?
3. How does rural to urban migration increase the purchasing power of people in the rural areas?
4. How many types of settlements are there in Delhi? What are they?
5. What is Urbanization in India?
6. Define features of Site and Situation?

Six Mark Questions

1. What are the various problems of Urbanization?
2. Describe the similarities and differences between the impacts of internal and international migration?
3. How did human life styles change with the settlements?
4. Mention the challenges of present day urbanisation and suggest remedies.

CHAPTER – 8 RAMPUR: A VILLAGE ECONOMY

Two Mark Questions

1. What are the different ways of increasing production on the piece of land?
2. What are Farm Activities and Non-Farm Activities?
3. What are the factors of production?
4. What is multiple cropping?

Four Mark Questions

1. How do the medium and large farmers obtain capital for farming? How is it different from the small farmers?
2. Land is required for the production in urban areas. In what ways is the use of land different from a rural area?
3. Why do you think men receive a higher wage than women for the same job? Discuss.
4. Write about irrigation in India?

Six Mark Questions

1. Why it is required huge capital for agricultural production in modern farming?
2. What do the large and medium farmers in Rampur do to get the labour for their farms? Compare with your region.

CHAPTER – 9 GLOBALISATION

Two Mark Questions

1. What is the impact of Globalization in India?
2. What is foreign investment? How much did Ford Motors invest in India?
3. What do you think can be done so that trade between countries is fairer?

Four Mark Questions

1. Why did the Indian Government wish to remove the barriers to foreign trade and foreign investment?
2. How does foreign trade lead to integration of markets across countries? Explain?
3. How is information technology connected with globalization? Would globalization have been possible without expansion of IT?
4. What do you understand by Liberalization of foreign trade?

Six Mark Questions

1. Globalization will continue in the future. Can you imagine that what the world would be like twenty years from now? Give reasons?
2. How was competition benefited people in India?

CHAPTER – 10 FOOD SECURITY

Two Mark Questions

1. "Public Distribution System (PDS) can ensure better food security for people - Give reasons.
2. What ways can the government ensure high availability of food grains for the people during periods of natural calamity?

Four Mark Questions

1. Describe the relationship between increase in food production and food security?
2. Describe the relationship between underweight and access to food?
3. What is the role of technology in Globalisation?

Six Mark Questions

1. What factors have contributed to the high growth of paddy and wheat yields over the long period?

CHAPTER – 11 SUSTAINABLE DEVELOPMENT WITH EQUITY

Two Mark Questions

1. What is sustainable development?
2. What is the main motive of Chipko Movement?

Four Mark Questions

1. Why did the people of Jalsindhi village refuse to move out of the village?
2. "This is the land of our forefathers. We have a right to it. If this is lost, then we will only get spades and pickaxes, nothing else," says Bala Mahaliya. Can you explain the statement?
3. What are the lessons to be drown from the alternate PDS initiative at Zaheerabad mandal in Telangana State?

Six Mark Questions

1. Rapid extraction of minerals and other natural resources would adversely impact the future development prospects. Do you agree?
2. Should the average temperature of the earth be treated as the natural resources for all the people?

CHAPTER – 12 THE WORLD BETWEEN WARS

Two Mark Questions

1. What were the immediate causes of the World War I & II?
2. What are the aims and objectives of UNO?
3. What is Marshal Plan?
4. Why did the league of Nations fail?

Four Mark Questions

1. What are the different impacts of wars during the first half of the 20th century?
2. What were the causes of two world wars?
3. How did the idea of nation states and nationalism influence desire for war during world wars?
4. What challenges were faced by Germany during great depression?
5. Russian revolution brought in many changes in their society. What were they?

6. The experience of war and depression gave rise to many new alternative models of national development -what were these and what were their limitations?

Six Mark Questions

1. What are the common consequences of world wars? Suggest steps to prevent wars?
2. What were the political changes brought under the Nazi rule?

CHAPTER – 13
NATIONAL LIBERATION MOVEMENTS IN THE COLONIES

Two Mark Questions

1. What is Agent Orange? 2. What is Pan Africanism?

Four Mark Questions

1. What role did schooling play in national movement of China, Vietnam and Nigeria?
2. Unlike Vietnam or India, Nigeria did not have to struggle so hard for freedom explain?
3. Compare the nature of land reforms in China, Vietnam and India.

Six Mark Questions

1. What are the challenges faced by the independent Nigerian nation? In what ways is it similar or different from the challenges faced by the independent India?
2. Trace the changes in the role of women seen in China over the decades. Why is it similar or different from that of USSR and Germany?
3. After the overthrow of monarchy, China had two different types of regimes. How were they similar or different?

CHAPTER – 14
NATIONAL MOVEMENT IN INDIA – PARTITION & INDEPENDENCE 1939-1947

Two Mark Questions

1. What is INA? 2. What is Quit India Movement?

Four Mark Questions

1. What were the different ways in which religion was used in polities before partition?
2. "Integration of various princely states in to the new Indian Nation was a challenging task discuss?
3. What were the problems faced by the people during the partition of India?

Six Mark Questions

1. What are the various reasons for the partition of the country?
2. What were the different ways in which power sharing among different communities was organised before partition?

3. How did British colonialists practice their 'Divide and rule' policy in India? How was it similar or different from what you studied about Nigeria?
4. What were the different ways in which religion was used in politics before partition?
5. How were workers and peasants mobilised during the last years of freedom struggle?
6. How did partition affect the lives of ordinary people? What was the political response to mass migration following partition?

CHAPTER – 15 THE MAKING OF INDEPENDENT INDIA'S CONSTITUTION

Two Mark Questions

1. What is a Republic?
2. What is a Constitution?

Four Mark Questions

1. What are the basic principles of Indian Constitution?
2. Describe the unitary and Federal principles of the Indian government as discussed in the CA debates?
3. What difference would it have made to the making of our constitution if the Assembly had been elected through universal adult franchise?

Six Mark Questions

1. How has the constitution defined and changed political Institutions in our country?
2. Describe the unitary and federal principles of Indian government as discussed in a CA debates?
3. How does the constitution reflect the political events of the time? Draw from previous chapter on freedom struggle?
4. How has the constitution defined and changed political institutions in the country?

CHAPTER – 16 ELECTION PROCESS IN INDIA

Two Mark Questions

1. What is code of conduct?
2. What is NOTA?
3. Define Constituency.
4. Who conducts elections in our country?
5. Classify the functions of the Election Commission of India?
6. How is a political party formed?
7. What is universal adult franchise?
8. Write any two Slogans to create awareness on the importance of Voting?

Four Mark Questions

1. How can you say that right to vote play a key role in democracy?
2. Prepare a pamphlet creating awareness about the importance of voting
3. Mention the duties of a returning officer?
4. Distinguish between general, midterm and by-elections?
5. Suggest some measures to be taken to conduct free and fare elections?

Six Mark Questions

1. Estimate the role of election commission in India.
2. Mention any four rules and regulations of the code conduct in elections?
3. What are the functions of the Election Commission?
4. Write any four rules and regulations that should be followed by the ruling party at the turn of elections?

CHAPTER – 17 INDEPENDENT INDIA (The First 30 Years)

Two Mark Questions

1. What measures of Indira Gandhi are called "left turn"?
2. Write about First Five Year Plan?

Four Mark Questions

1. What were the institutional changes that came up after the emergency?
2. What were the major changes in political system after 1967 elections?
3. What measures were taken to bring in socio-economic change during the initial years after independence?
4. In what ways the emergency period was a setback to the Indian Democracy?

Six Mark Questions

1. What measures were taken to bring in socio-economic change during the initial years after Independence?
2. How do you understand one party dominance? Would you consider it as dominance only is elections or also in term of ideology? Discuss with reasons?
3. Language became a central rallying point in Indian politics on many occasions, either as unifying force or as divisive element. Identify these instances and describe them?
4. What measures of Indira Gandhi are called “left turn”? How do you think was different from polices of previous decades? Based on your Economics chapters, describe how it is different from the current policies?
5. What are the reasons for the rise of regional parties after 1967?

CHAPTER – 18 EMERGING POLITICAL TRENDS 1977 to 2000

Two Mark Questions

1. What is Policy Paralysis?
2. What is Operation Barga?

Four Mark Questions

1. How did regional aspirations lead to the formation of regional parties? Compare the similarities and differences between the two different phases?
2. How do different types of regional aspirations draw from cultural and economic dimensions?

Six Mark Questions

1. In the early half of India after independence there was Importance given to planned development. In the later part emphasis was given to liberalisation. Discuss and find out how does it reflect political ideals?
2. How did regional aspirations lead to the formation of regional parties? Compare the similarities and differences between the different phases?
3. What were the developments that weakened the inclusive nature of Indian polity? How is the ability to accommodate different communities and regional aspirations changing?

CHAPTER – 19 POST-WAR WORLD AND INDIA

Two Mark Questions

1. Write any two aims of NAM?
2. Why West Asia became a center of tensions in the world?

Four Mark Questions

1. How did cold war produce arms race as well as arms control?
2. How were the super powers benefitted by the military alliances?

Six Mark Questions

1. "Formation of NAM was not merely in the context of military alliances but also in the context of economic policies". Justify?
2. What are the different roles played by United Nations in order to build peace in the world?
3. How were the super powers benefited by military alliances?
4. By the end of the 20th Century, there was only one super power dominating the world and NAM couldn't do much about it. - elaborate?
5. "Formation of NAM was not merely in the context of military alliances but also in the context of economic policies". Justify the answer?

CHAPTER – 20 SOCIAL MOVEMENTS IN OUR TIMES

Two Mark Questions

1. What is START? 2. What is cold war?

Four Mark Questions

1. What are the basic features of social movement?
2. Discuss and find out how movements mobilise people from across the globe like in the above instance of campaign to protest in the context of Bhopal gas tragedy.
3. Prepare a Pamphlet on the "Prohibition of liquor".

Six Mark Questions

1. How are the rights of black people in USA and Meira Paibi movements similar or different?
2. How is the role of ordinary individuals described in the aforestated case studies?
3. How are the rights of black people in USA and Meira Paibi movements similar or different?
4. Democracies have been identified as most prominent political systems across world. Do you think it has been able to take care of all expectations of people? Based on the examples cited in this chapter, write a short note on democracy and social movements?

CHAPTER - 21

THE MOVEMENT FOR THE FORMATION OF TELANGANA STATE

Two Mark Questions

1. What is Gentlemen's Agreement? 2.What is JAC?
3. Draw the out line Map of Telangana.

Six Mark Questions

1. Describe the main features of Gentleman's Agreement. How did this become a point of distrust between the regions?
2. "Diversity of people living in Telangana has historical, social and cultural context". Justify the statement
3. What have been the differences in access to water, agriculture, education and employment in the two regions?
4. How do you evaluate the various modes of mobilisation methods used in Telangana state formation?
5. Describe the different roles taken up by JACs and Political parties in the formation of Telangana state? Do you think JAC's created platform across political ideologies?
6. How did the main features of the Gentlemen's Agreement become 'A point of distrust 'between two regions of Telangana and Andhra?

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