

SUBJECT: - MATHEMATICS
SQUARES AND SQUARE ROOT

2 marks questions

1. Find the smallest number by which 2925 must be divided to obtain a perfect square. Also find the square root of the perfect square so obtained.
2. Find the smallest number by which 252 must be multiplied to get a perfect square. Also find the square root of the perfect square so obtained.
3. Find the smallest number by which 25200 should be divided so that the result is a perfect square.
4. Find the smallest number by which 1800 must be divided so that the resulting number is a perfect square.
5. Find the smallest number by which the 12150 must be multiplied so that the resulting number is a perfect square.
6. Find the square root of the following by prime factorization method.
(i) 1764 (ii) 1156 (iii) 7056 (iv) 8281 (v) 11664 (vi) 47089
(vii) 24336
7. Find the square root of the following
(i) $\sqrt{\frac{245}{867}}$ (ii) $\sqrt{\frac{1183}{2023}}$ (iii) $3\frac{334}{3025}$ (iv) $10\frac{151}{225}$ (v) $\frac{80}{405}$
8. Find the value of (i) $\sqrt{72} \times \sqrt{338}$ (ii) $\sqrt{1620} \times \sqrt{980}$ (iii) $\sqrt{99} \times \sqrt{390}$
(iv) $\sqrt{147} \times \sqrt{243}$
9. Evaluate $\sqrt{50625}$ and hence find the value of $\sqrt{506.25} + \sqrt{5.0625}$
10. Find the value of (i) $\sqrt{103.0225}$ (ii) $\sqrt{10302.25}$ (iii) $\sqrt{1.030225}$

3 marks questions

11. The product of two numbers is 1296. If one number is 16 times the other. Find the numbers
12. The product of two numbers is 1575. And their greatest is $\frac{9}{7}$. Find the numbers
13. Find the square root of the following by repeated subtraction.
(i) 169 (ii) 121 (iii) 81 (iv) 196
14. The area of a square field is 5184 m^2 . A rectangular field whose length is twice its breadth has its perimeter equal to the perimeter of the square field. Find the area of the rectangular field.
15. Find the greatest number of 5-digits which is a perfect square.
16. Find the greatest number of 4-digits which is a perfect square.
17. Find the square root of each of the following long division method.
(i) 286225 (ii) 390625 (iii) 974169 (iv) 120409

(v) 1471369 (vi) 1745041 (vii) 4008004 (viii) 20657025

(ix) 152547201 (x) 20421361 (xi) 62504836 (xii) 3226694416

18. Find the least number which must be subtracted from 18265 to make it a perfect square. Also find the square root of the resulting number
19. Find the least number which must be added to 306452 to make it a perfect square.
20. Find the least number which must be subtracted from the following numbers to make a perfect square. (i) 2361 (ii) 26535 (iii) 16160
21. Find the least number which must be added to the following numbers to make them a perfect square. (i) 5607 (ii) 4931 (iii) 37460 (iv) 506900
22. Find the smallest number which must be added to 2300 so that it becomes a perfect square.
23. Simplify (i) $\frac{\sqrt{59.29} - \sqrt{5.29}}{\sqrt{59.29} + \sqrt{5.29}}$ (ii) $\frac{\sqrt{0.2304} - \sqrt{0.1764}}{\sqrt{0.2304} + \sqrt{0.1764}}$
24. Find the length of a side of a square whose area is equal to the area of a rectangle with sides 240 m and 70 m
25. A decimal fraction is multiplied by itself to give the product 0.007569. Find the decimal fraction.
26. Find the length of each side of a square whose area is equal to the area of a rectangle of length 13.6 meters and breadth 3.4 metres.
27. Find the least square number which is exactly divisible by each of the numbers 6, 9, 15 and 20.
28. Find the least square number which is exactly divisible by each of the numbers 8, 12, 15 and 20.
29. The area of a square field is 60025 m². A man cycles along its boundary at 18 km/hour. In how much time will he return at the starting point?
30. Find the least number of 6-digits which is a perfect square.
31. Find the least number of 4-digits which is a perfect square.
32. The cost of leveling and turfing a square lawn at Rs. 2.50 per m² is Rs. 13322.50. Find the cost of fencing it at Rs. 5 per metre.
33. Find the value of $\sqrt{\frac{3}{7}}$ upto four decimal places.
34. Find the square root of the following up to four decimal places.
(i) $\frac{2}{9}$ (ii) $\frac{7}{8}$ (iii) $3\frac{5}{12}$ (iv) $2\frac{2}{5}$
35. Find the square root of 3 correct to three decimal places
36. Find the square root of 237. 615 correct to 3 decimal places.

37. Find the square root of $10\frac{2}{3}$ correct to three places of decimals.
38. Find the square root of $\frac{3}{7}$ correct to three decimal places.
39. Find the square root of 5 correct to three places of decimal.
40. Find the square root of $\frac{5}{12}$ correct to three places of decimal.
41. Find the square root of $2\frac{1}{2}$ correct to three decimal places.
42. Find the square root of 11 correct to three decimal places.

CUBES & CUBE ROOTS

1. Find the cubes of the following.
2. Find the cube root of 4.096.
3. Find the cube root of $\frac{-1024}{-1458}$.
4. Find the cube roots of 0.003375
5. Find the cube roots of 0.001728
6. The volume of a cubical box is 13.824cu.cm .Find the length of each side of the box.
7. Show that $\frac{-216}{42875}$ is the cube of a rational number. Also find that rational number.
8. The volume of a cube is 9261000m^3 . Find the side of the cube.

3 mark questions

9. Find the smallest number which when multiplied with 137592 will make the product a perfect cube. Find the cube root of the product.
10. Find the smallest number which when multiplied with 3600 will make the product a perfect cube. Find the cube root of the product.
11. What is the smallest number by which 8192 must be divided so that quotient is a perfect cube? Also find the cube root of the quotient so obtained.
12. Find the cube root of each of the following rational numbers.

(a) $\frac{4913}{10648}$ (ii) $\frac{2187}{8232}$ (iii) $\frac{686}{-3456}$

13. Evaluate each of the following

(i) $\sqrt[3]{27} + 3\sqrt{0.008} + 3\sqrt{0.064}$ (ii) $\sqrt[3]{0.1 \times 0.1 \times 0.1 \times 13 \times 13 \times 13}$

(iii) $3\sqrt{1000} + \sqrt[3]{0.008} - \sqrt[3]{0.125}$ (iv) $3\sqrt{\frac{0.027}{0.008}} \div 3\sqrt{\frac{0.09}{0.04}} - 1$

14. The volume of a cubical box 474.552cu.m. Find the length each side of the box.
15. Find cube root of the following by repeated subtraction method.

(i) 216 (ii) 512 (iii) 343 (iv) 125

16. Find the cube root of the following numbers through estimation

(i) 15625 (ii) 110592 (iii) 13824 (iv) 175616

17. Find $\sqrt[3]{\begin{matrix} -686 \\ -2662 \end{matrix}}$

18. Find cube root of 32768 by estimation

4Mark questions

19. Three numbers are in the 2:3:4 .The sum of their cubes is 0.334125 .Find the numbers .

20. Three numbers are in the 1:2:3 . The sum of their cubes is 98784 .Findthe numbers.

21. Three numbers are in the ratio 2:3:4.The sum of their cubes is 33957. Find the numbers .

PROFIT LOSS AND DISCOUNT

(2 Marks questions)

1. Manjit bought an iron safe for Rs.5580 and paid Rs.170 for its transportation . Then he sold it for Rs.6440 . Find the gain per cent.
2. Rohan purchased an old car for Rs.73500 . He spent Rs.2600 for its insurance . Then he sold it to a mechanics for Rs.84240. What was his percentage of Gain or loss?
3. The cost price of 12 candles is equal to the selling price of 15candles.Find loss per cent
4. By selling 45 lemons ,a vendor losses a sum equal to the selling price of 3 lemons . Find his loss per cent.
5. The market price of a water cooler is Rs.4650.The shopkeeper offers an offseason discount of 18% on it. Find its selling price ,
6. The price of a sweater was slashed from Rs.960 to Rs.816 by a shopkeeper
7. In the winter season .Find the rate of discount given by him.
8. A tea set was bought for Rs.528 after getting a discount of 20% on the market . Find his his gain or loss percent.
9. Ashopkeeper buys a toy for Rs.250 and sells it for Rs.285 . Find his gain per cent.
10. Rishi bought a wrist watch for Rs.2200 and sold it for Rs.1980.Find his loss per cent.

3 marks each

11. If the cost price of 18 mangoes is equal to the selling price of 16 mangoes .Find the gain per cent.
12. Oranges are bought at 6 for Rs.10 and sold at 4 for Rs.9 .Find the gain or loss per cent.
13. A vendor purchased bananas for Rs.16 per dozen and sold them at 10
14. for Rs.18 .Find the gain or loss per cent .
15. A man bought apples at 10 for Rs.25 and sold them at Rs.25 pedozen .Find his gain or loss per cent .
16. A man purchased some eggs at 3 for Rs.5 and sold them at 5 for Rs.12
17. Thus he gained Rs.143 in all. How many eggs did he purchase ?

18. A dealer sold a camera for Rs.1080 gaining $\frac{1}{8}$ its cost price .Find cost price of the pen and gain per cent.
19. Raja sells a pen for Rs.54 and loses $\frac{1}{10}$ of her outlay. Find the cost price of the pen and loss per cent.
20. If the selling price of an air conditioner is equal to $1\frac{1}{3}$ of its cost price. Find the gain percent?
21. If the selling price of a flower base is $\frac{4}{5}$ of its cost price . Find the loss percent.
22. A dealer marks his good at 35% above the cost price and allows a discount
23. Of 20% on the marked price .Find his gain or loss percent.
24. 20.A cell phone was marked at 40% above the cost price and a discount of 30% was given on its marked price . Find the gain `or loss per cent made by the shopkeeper .
25. 21.Find the single discount which equivalent to two successive discounts of 20% and 5% .After allowing a discount of 10% on the marked price a trader still makes a profit of 17%
26. By what percent is the marked price above the cost price ?
27. The marked price of a T V is Rs.18500 . A dealer allows two successive discounts of 20% and 5% .For how much is T V available ?
28. How much percent above the cost price should a shopkeeper mark his goods so thatafter allowing a discounts of 10% on the marked price , he gain 8% .
29. A tradesman allows a discount 15% on the written price . How much above the cost price must be mark his goods to make a profit of 19% ?
30. A trader marks his goods 40% above the cost price and gives a discount of 20% on the marked price . Find his gain percent.
31. A shopkeeper allows a discount of 10% to his customers and still gains 20%. Find the marked price of an article which costs Rs.450 to the shopkeeper .
32. A lady shopkeeper allows her customers 10% discount on the marked price of the Goods and still gets a profit of 25% .What is the cost price of a fan for her marked at Rs.1250 ?

4- MARK QUESTIONS

33. A dealer gets Rs.470 more if instead of selling a table at loss of 10% . Find the cost price of the table .
34. A dealer gets Rs.56 less if instead of selling a chair at a gain of 15% , it is sold at again of 8% .Find the cost price of the chair.

35. A cycle was sold at gain of 10%. Had it been sold for Rs.65 more, the gain would have been 14%. Find the cost price of the cycle.
36. Sundaram buys 40kg of wheat at Rs.6.25 per kg and 30kg of wheat at Rs.7 per kg. At what rate per kg should he sell the mixture to gain 5% on the whole?
37. Hema bought two pairs of jeans for Rs.725 each. She sold one of them at a gain of 8% and other at a loss of 4%. Find her gain loss percent in the whole transaction.
38. By selling a bouquet for Rs.322, a florist gains 15%. At what price should he sell it to gain 25%?
39. A radio is sold for Rs.3120 at a loss of 4%. What will be the gain or loss per cent if it is sold for Rs.3640?
40. A shopkeeper sold two fans for Rs.990 each. One he gains 10% and other he loses 10%. Calculate his gain or loss per cent in whole transaction.
41. A grocer bought sugar worth Rs.4500. He sold one third of it at a gain of 10%. At what gain per cent must the remaining sugar be sold to have a gain of 12% on the whole.
42. Vinod sold a watch to Alex at a gain of 12% and Alex had to sell it to Sweta at a loss of 5%. If Sweta paid Rs.1330 for it, how much did Vinod pay for the watch?
43. A dealer purchased a fan for Rs.1080. After allowing a discount of 25% on its marked price, he gains 25%. Find the marked price of the fan.
44. A dealer bought a refrigerator for Rs.11515. After allowing a discount of 16% on its marked price he gains 20%. Find the marked price of the refrigerator.
45. A jeweller allows a discount of 16% to his customers and still gains 20%. Find the marked price of a ring which costs the jeweller Rs.1190.
46. The marked price of a T V is Rs.18500. A dealer allows two successive discounts of 20% and 5%. For how much is the T V available?
47. Rohit buys an item at 25% discount on the marked price. He sells it for Rs.660, making a profit of 10%. What is the marked price of the item?
48. What price should Aslam mark on a pair of shoes, which costs him Rs.11200 so as to gain 12% after allowing a discount of 16%?
49. Jasmine allows 4% discount on the marked price of her goods and still earns a profit of 20%. What is the cost price of a shirt for her marked at Rs.850?

DIRECT VARIATION INDIRECT VARIATION

2 Mark Questions

1. If 15 books cost Rs.70, how much will 12 books cost?
2. If 20 men assemble 8 machines in a day, how many men are needed to assemble 12 machines in a day?
3. A machine takes 5 hours in cutting 120 tools. How many tools will it cut in 20 hours?

4. In a library 136 copies of a certain book require a shelf length of 3.4metres. How many copies of the book would occupy a shelf length of 5.1metres ?
5. 11 men dig a trench $6\frac{3}{4}$ metres long in one day .How many men should be employed for digging a trench of the same type 27 metres long in one day ?
6. If 3 pieces of table cloth cost Rs.112.50, then find the number of pieces of table cloth available for Rs.487.50 .
7. A shopkeeper has just enough money to buy 52 cycles worth Rs.525 each . If each cycle were to cost Rs.21 more than the amount hehas how many cycles would he be able tobuy?
8. If 20 men consume a certain quantity of rice in 14 days, in how many days will 8 men consume the same quantity of rice?
9. If 1800 persons can finish the construction of a building in 40 days, how many persons are needed tocomplete the construction of the building in 24days?
10. Navin cycles to his school at an average speed of 12 km/hr. It takes him 20 minutes to reach the school. If he wants to reach his school in 15 minutes ,what should be his average speed ?
11. The time needed to travel from one place to another is inversely proportional to the speed . A person travelling 72km/hr can go from Dehradun to Lucknow in 10 hours. How fast must the person travel to make the trip in 9hours ?
12. If 20 men working together can finish a job in 20 days then find the number of days taken by 25 men of the same capacity to finish the job
13. 28 pumps can empty a reservoir in 18 hours. In how many hours can 42 such pumps do the same work ?
14. A stock of food grains is enough for 400 persons for 9days . How long will the same stock last for 300persons ?
15. Working 4 hours a day ,Savita can type manuscript in 15 days . How many hours a day should she completed the work in 10days ?

3 Marks Question

16. The mass of a uniform copper bar varies directly as its length . If a bar 40cm long has mass of approximately 420gm, find the mass of a bar 136cm long .
17. A fish with a mass of 3kg causes a fishing pole to bend 9cm . If the amount of bending varies directly as the mass how much will the pole bend for a 2kg fish ?
18. At a party 8 bottles of soft drink are served for every batch of 5 children . How many bottles would be served if 40 children were present at the party ?
19. Harsh takes 150 steps in walking a distance of 125metres. What distance would he cover In360steps?

20. The second class railway fare for 240km of journey is Rs.15. What would be the fare for a journey of 139.2km? Assume that the fare varies directly as the length of the journey.
21. A worker makes a toy every $\frac{2}{3}$ hour. If the worker works for $7\frac{1}{2}$ hours, then find the number of toys made by him.
22. Seema cycles to her school at an average speed of 12 km/hr. It takes her 20 minutes to reach the school. If she wants to reach her school in 15 minutes, what should be her average speed?
23. A contractor who had a force of 630 persons, undertook to complete a portion of a stadium in 14 months. He was asked to complete the job in 9 months. How many extra persons had he to employ?
- a. men can do a piece of work in 10 days. How many less men are required if the work is to be completed in 15 days?
24. A train moving at a speed of 60km/hr covers a certain distance in 7.5 hours. What should be the speed of the train to cover the same distance in 6 hours?
25. Find the height of a flagpole which casts a shadow 20m long at a time and place where the shadow of a stick 1m long is 55cm.
26. Rajan has first enough money to buy 30 cycles worth Rs.600 each. How many cycles will he be able to buy if the cost of each cycle increases by Rs.150.

4Marks Questions

27. A fort had provisions for 45 days. After 10 days 25 men left the fort. How long will the food last at the same rate?
28. A garrison of 800 men had provisions for 39 days. However a reinforcement of 500 men arrived. For how many days will the food last now?
29. A besieged town has provisions to last for 3 weeks. Its population is 22400. How many people must be sent away in order that the provisions may last for 7 weeks?
30. A hostel had rations for 500 students. After 12 days, 300 more students join the hostel. How long will the remaining rations last?
31. A group of 210 men had provisions for 60 days. After 10 days, 60 men left. How long will the remaining food last?
32. In a factory 600 men had provisions for 180 days. After 40 days, 100 men left the fort. How many days will food last.
33. 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons working 6 hours a day complete the work?

ALGEBRAIC IDENTITIES

2 Mark questions

1. Find the square of the following

(i) $\left(\frac{x}{5} + \frac{y}{7}\right)$ (ii) $\left(\frac{3x}{4} - \frac{4y}{5}\right)$ (iii) $\left(\frac{3}{x} + 2x\right)$ (iv) $\left(5 - \frac{2}{x}\right)$ (v) $(a^2b - b^2a)$

(vi) $(p^2 + q^2)$ (vii) $(x^3 + y^3)$

2. Find the value of the following

(i) $9x^2 + 49y^2 + 42xy$ when $x=3, y=1$ (ii) $25x^2 + 64y^2 - 80xy$ when $x=4, y=2$

(iii) $81a^2 + 9b^2 - 54ab$ when $a=-1, b=-4$ (iv) $4x^2 + \frac{9}{x^2} - 12$ when $x=2$

3. If $x + \frac{1}{x} = 3$ find the values of $x^2 + \frac{1}{x^2}$ and $x^4 + \frac{1}{x^4}$ 4. If $x + \frac{1}{x} = \sqrt{5}$ find the values of $x^2 + \frac{1}{x^2}$ 5. If $x^2 + \frac{1}{x^2} = 47$, find the value of $x + \frac{1}{x}$ 6. If $x^2 + \frac{1}{x^2} = 66$, find the value of $x - \frac{1}{x}$ 7. Simplify (i) $178 \times 178 + 2 \times 178 \times 122 + 122 \times 122$ (ii) $236 \times 236 - 2 \times 236 \times 86 + 86 \times 86$
(iii) $391 \times 391 - 291 \times 291$ (iv) $0.82 \times 0.82 + 2 \times 0.82 \times 0.18 + 0.18 \times 0.18$
(v) $1.06 \times 1.06 - 2 \times 1.06 \times 0.06 + 0.06 \times 0.06$ (vi) $\frac{7.83 \times 7.83 - 1.17 \times 1.17}{6.66}$

8. Find cube of the following

(i) $(2x+5y)$ (ii) $(8x+5y)$ (iii) $(10m+5n)$ (iv) $(8-2a)$ (v) $\left(2x + \frac{3}{x}\right)$

(vi) $3p - \frac{1}{4q}$ (vii) $\left(4 - \frac{1}{3x}\right)$

9. Find the following product

(i) $(x+7)(x+9)$ (ii) $(a+6)(a+11)$ (iii) $(m+8)(m-3)$ (iv) $(p-9)(p-5)$ (v) $(x^2+3)(x^2+4)$

(vi) $\left(x - \frac{3}{5}\right)\left(x - \frac{1}{5}\right)$ (vii) $(2x+5)(2x+8)$ (viii) $(5x-7)(5x+3)$

10. Factorise the following

(i) $a^3 + a - 5a^2 - 5$ (ii) $y^2 + 3y + 3xy + 9x$ (iii) $4(3x+7y)^2 - 6(3x+7y)$

(iv) $3ax - 6ay - 8by + 4bx$ (v) $x(x+y-z) - yz$ (vi) $8 - 4x - 2x^3 + x^4$ (vii) $x^2 - 121$

(viii) $5x^2 - 320$ (ix) $49x^2 - 36y^2$ (x) $x^3 - x$ (xi) $2x^5 - 32x$ (xii) $8ab^2 - 18a^3$

11. Evaluate the following using identities

(i) $(ab+cd)(ab-cd)$ (ii) $(a-0.1)(a+0.1)$ (iii) $(1.5x^2 - 0.3y^2)(1.5x^2 + 0.3y^2)$

(iv) $(9x^2 + 5y^2)(9x^2 - 5y^2)$ (v) $(0.12x^3 + 0.3y^3)(0.12x^3 - 0.3y^3)$

12. Write the following in the expanded form using formula

(i)(a+2b+c)² (ii)(2a-3b-c)² (iii)(-3x+y+z)² (iv)(m+2n-5p)²

(v) (a²+b²+c²)²(vi) (ab+bc+ac)² (vii) $\left(\frac{x}{y} + \frac{y}{z} + \frac{z}{x}\right)^2$ (viii) $\left(\frac{a}{bc} + \frac{b}{ca} + \frac{c}{ab}\right)^2$

13. If $x + \frac{1}{x} = 11$, find the value of $x^2 + \frac{1}{x^2}$

14. If $x - \frac{1}{x} = -1$ find the value of $x^2 + \frac{1}{x^2}$

15. If $x^2 + \frac{1}{x^2} = 79$, find the value of $x + \frac{1}{x}$

3 Mark question

16. Evaluate the following using identities

(i)(107)² (ii)(153)² (iii)(499)² (iv)(0.98)²

(v)(20.7)² (vi)(199.5)²

17. If $2x+3y=8$ and $xy=2$, find the value of $4x^2+9y^2$.

18. If $3x-7y=10$ and $xy=-1$, find the value of $9x^2+49y^2$

19. Find the value of $x^2+4y^2+9z^2+4xy+12yz+6xz$ when $x=8$, $y=7$, and $z=6$

20. Find the value of $4x^2+y^2+25z^2+4xy-10yz-20xz$ when $x=4$, $y=3$ and $z=2$

21. If $x+y=9$ and $xy=18$, find the value of x^3+y^3

22. If $3x+4y=11$ and $xy=2$, find the value of $27x^3+64y^3$

23. If $x-y=4$ and $xy=21$ find the value of x^3+y^3

24. If $7x-5y=6$ and $xy=9$, find the value of $343x^3-125y^3$

25. If $x + \frac{1}{x} = 5$ find the value of $x^3 + \frac{1}{x^3}$

26. If $x - \frac{1}{x} = 7$, find the value of $x^3 - \frac{1}{x^3}$

27. If $x^2 + \frac{1}{x^2} = 14$, find the value of $x^3 + \frac{1}{x^3}$

28. If $x^2 + \frac{1}{x^2} = 83$, find the value of $x^3 - \frac{1}{x^3}$

29. If $x^4 + \frac{1}{x^4} = 47$, find the value of $x^3 + \frac{1}{x^3}$

30. Evaluate the following

(i) (103)³ (ii)(98)³ (iii) (402)³ (iv) (598)³ (v)(9.9)³

(vi) (10.4)³ (vii)(100.2)³

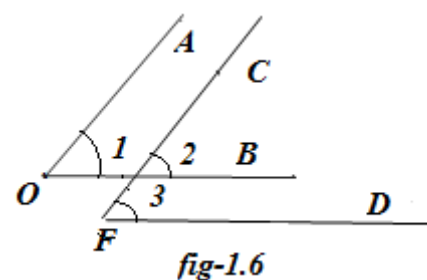
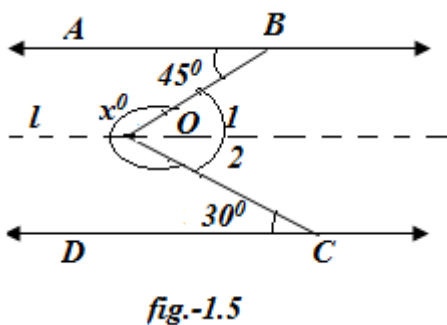
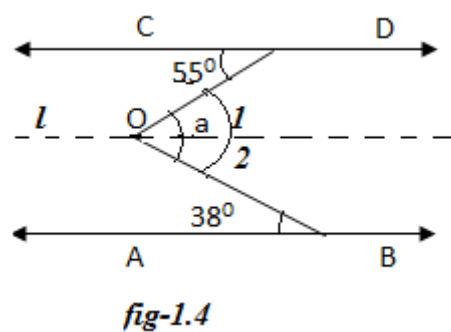
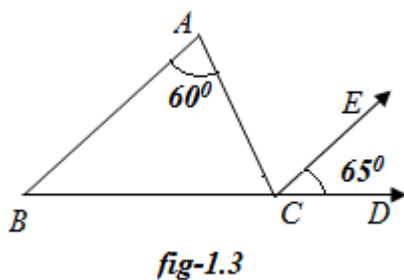
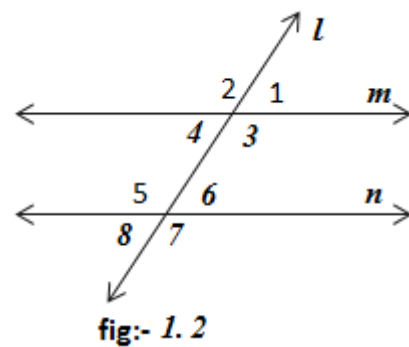
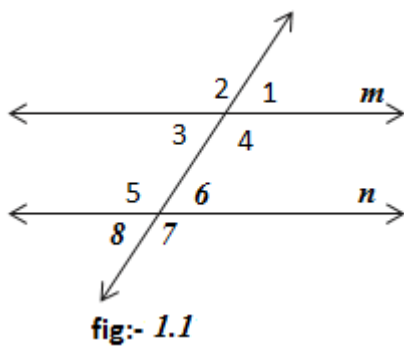
31. Find the value of $27x^3+64y^3+36xy(3x+4y)$ when $x=5$ and $y=-3$

32. Find the value of $8a^3-27y^3-18ab(2a-3b)$ when $a=8$, $b=5$

33. If $x+y+z = 0$ prove that $x^3+y^3+z^3 = 3xyz$

PARALLEL LINES

1. In fig.-1.1, $m \parallel n$ and $\angle 1 = 65^\circ$. Find $\angle 5$ and $\angle 8$
2. In fig.-1.2, $m \parallel n$ and angles 1 and 2 are in the ratio 3 : 2 . Determine all the angles from 1 to 8.
3. In fig.-1.3, it is being given that $\angle A = 60^\circ$ and $CE \parallel BA$ and $\angle ECD = 65^\circ$. Find $\angle ACB$
4. In fig.-1.4, $AB \parallel CD$, Determine $\angle a$.
5. In fig.-1.5, $AB \parallel CD$, Determine x .
6. In fig.-1.6, it is being given that $OA \parallel FC$ and $OB \parallel FD$, Prove that $\angle AOB = \angle CFD$
7. In fig.-1.7, $AB \parallel CD$ and $EF \parallel DQ$. Determine $\angle PDQ$, $\angle AED$ and $\angle DEF$
8. In fig.-1.8, show that $AB \parallel EF$.
9. In fig.-1.9, give reasons why $l_1 \parallel l_2$. Is $m_1 \parallel m_2$?
10. In fig.-1.10, lines l and m are parallel and n and p are transversals such that n is not parallel to p . find the value of x and y .



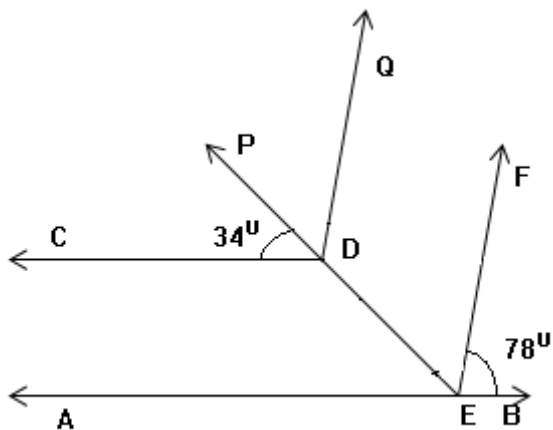


fig.-1.7

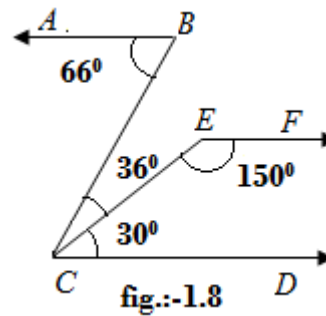


fig.-1.8

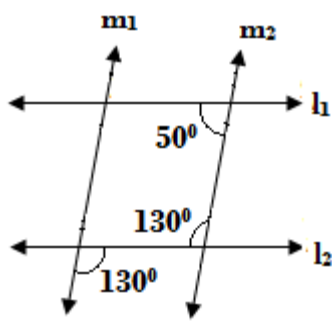


fig.-1.9

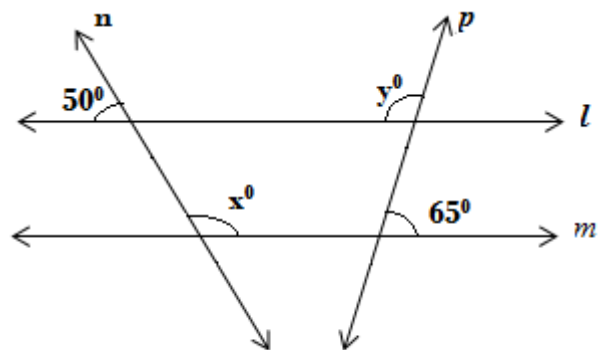


fig.-1.10

SUBJECT – SCIENCE (PHYSICS)

Chapter - Earthquake

Q A. Very short questions carrying 1 mark :-

1. What is the origin of earthquake inside the earth called?
2. A fracture in the earth's crust is called _____.
3. The molten rocks are called _____.
4. The _____ of an earthquake define the energy released.
5. The upper solid layer of the earth is called _____.
6. Define earthquake.
7. What is fault zone?
8. Define seismology.
9. What is Richter scale?
10. When did the tsunami wave hit the Indian Ocean?

Q B. Short questions Carrying 2 Marks:-

1. Write two ways to know the forthcoming earthquake.
2. Classify the term 'focus' and 'epicenter'.
3. Classify the earthquake according to its magnitude.
4. How does the magnitude of destructive energy vary with an increase of two in magnitude?

Q C. Long questions carrying 3 marks:-

1. What measures can be taken to minimize damage caused by earthquakes in future.
2. What necessary steps can be adopted towards construction of earthquake resistant houses?
3. What are the effects of earthquake?
4. What precautions can you take after the earthquake?

Q D. Long Questions Carrying 5 marks:-

1. What would you do, if you are in your school and there is an earthquake?
2. Briefly explain the causes of earthquake and write how is it measured.
3. List the things that we must do during an earthquake.

Chapter - Light**Q A. Very short questions carrying 1 mark :-**

1. What is light?
2. What is refraction?
3. Define dispersion.
4. Explain VIBGYOR.
5. What type of image is formed by a concave lens?
6. How does the size of image vary according to the object distance in a concave lens?
7. How does the nature and position of the image varies according to the distance of an object from the concave lens?
8. What type of image is formed by a convex lens when the object is in between F & O?
9. Define focus.
10. Define focal length.
11. Define radius of curvature.
12. Define principal axis.
13. Define total internal reflection.

Q B. Short questions Carrying 2 Marks:-

1. How is rainbow formed?
2. Why is rainbow formed in the direction opposite to the direction of the sun?
3. Define refractive index. How does it vary with the optical density of the medium?
4. What do you mean by optical density? How does the speed of light vary according to the optical density?
5. Why the red colour light bends minimum in comparison to violet light during dispersion?
6. What are primary and composite colours?
7. How is lens made? What are its different types?
8. Differentiate between convex and concave lens.
9. Differentiate between real and virtual image.
10. How is mirage formed?
11. Complete the diagrams
12. Complete the ray diagram.

Q C. Long questions carrying 3 marks:-

1. Why do stars twinkle?
2. When a coin is placed in water bucket, it appear to be raised. Why? Explain with diagram.
3. Why do rasagullas kept in glass jars appear to be bigger in size?
4. Why does a stick appear to be bent when it is placed in a half filled water bucket?
5. Define absolute refractive index. Find the absolute refractive index of diamond if speed of the light in diamond is 1.25 lakhs of km per second.
6. Define angle of incidence and angle of emergence.
7. Why the swimming pool appear less deeper than it is originally.
8. State an activity with prison show that VIBGYOR produces white light.
9. What are the three rules for the formation of image by a lens?
10. State an activity to find the focus of a convex lens.

11. Two different types of lenses are given which are fitted to a plastic handle. State an activity to identify concave and convex lens. Which lens is used as a reading glass?
12. Write three applications of lenses.
13. Draw the ray diagram for the image formation by a convex lens when the object is placed beyond $2F$.
14. Draw the ray diagram for the image formation by a concave lens when the object is placed between F & $2F$.

Q D. Long Questions Carrying 5 marks:-

1. State an activity to show the refraction through glass slab.
2. How does dispersion take place through prism? Also write what is visible range?

Chapter – Human Eye

Q A. Very short questions carrying 1 mark :-

1. Define least distance of distinct vision.
2. What is power of accommodation?
3. What is range of vision?
4. How is night blindness caused?
5. What is stereoscopic vision?
6. Why do nocturnal birds can not see during day time?
7. How is cataract caused/
8. Name 2 eye defects other than myopia & Hypermetropia.
9. Insects can see number of images at a time. Why?
10. What is the function of aqueous humans?

Q B. Short questions Carrying 2 Marks:-

1. Differentiate between optical aids and non-optical aids.
2. What is Braille system? Who invented this?
3. How do we see colours?
4. What is blind spot? State an activity to find the existence of blind spot.
5. How is the size of pupil changes with respect to the intensity of light?
6. Write the function of the following :-
 Iris - Cornea -
 Lens - Retina -
7. Differentiate between far point and near point.
8. We can not see the torch light focused by the doctor while testing for the eye defect. Why?

Q C. Long questions carrying 3 marks:-

1. Write the similarities between human eye and camera.
2. Differentiate between myopia and hypermetropia on the basis of size of the eye lens and focal length. (Give the ray diagram)
3. State any 3 measures to take care of the eye.

Q D. Long Questions Carrying 5 marks:-

1. Draw a diagram of human eye and label.
2. Any four part. Also write their functions.
3. State any 5 defects of vision and write their causes & remedies.

Chapter – Sound

Q A. Very short questions carrying 1 mark :-

1. How is sound produced?
2. What is vibration?

3. Name two musical string instruments.
4. On what factors speed of sound depends?
5. What should be the minimum distance for producing echo?
6. What is the function of auditory nerve?
7. Name 3 tiny bones present in the ear.
8. What is the magnitude of persistence of hearing.
9. What do you mean by persistence of hearing?
10. Define audible range.
11. Define ultrasonic sound.
12. Define infrasonic sound.
13. What is sonic boom?

Q B. Short questions Carrying 2 Marks:-

1. How do the vibrations produced by vocal cords get converted in to speech?
2. What results the difference in characteristic sound of men and women?
3. How do birds produce sound?
4. How do insects produce sound?
5. How do frogs produce sound?
6. Why do we hear thunder sound after lightning?
7. Define the following terms :-
 - i) Frequency (ii) Time Period
 - iii) Amplitude (iv) Wave length
8. Write the factors on which loudness and shrillness of sound depend?
9. Differentiate between noise and musical sound.
10. What are the harmful effects of noise?

Q C. Long questions carrying 3 marks:-

1. How do human beings produce sound?
2. State an activity to show that medium is necessary for the propagation of sound.
3. Write three steps to minimize noise.
4. Write three uses of infrasonic sound.
5. Differentiate between longitudinal sound and transverse sound.
6. What are the three sources of noise pollution?
7. Write short notes on hearing improvement.
8. What is sign language? How does it help the deaf people?
9. Establish the relationship between λ , t and $\sqrt{\quad}$ where they have their usual meanings.
10. On what factors amplitude of vibration depend? How does it vary?

Q D. Long Questions Carrying 5 marks:-

1. Giving a labeled diagram of ear, explain the functions of its different parts.
2. How is echo produced? Write the conditions for producing echo.
3. Write 5 uses of ultrasonic sound.

Chapter – Stars and Solar System

Q A. Very short questions carrying 1 mark :-

1. Define astronomy.
2. Which arrangement of stars resembles a hunter with a belt and a sword?
3. Name 2 moons of mars.
4. Name 2 ring planets.

5. Name the famous comet that passes in the time interval of every 79 years.
6. What are comets?
7. What are asteroids?
8. Name the largest asteroid.
9. Name the planet where existence of life is there.
10. Name 2 artificial satellites.
11. Define 1 light year.
12. Define astronomical unit.
13. Name the nearest star to the earth after sun.
14. What is our natural satellite called?
15. What are shooting stars?
16. Name the brightest and largest stars of Orion.
17. What are used as memory aids?
18. Establish the relationship between light year and kilometers.
19. At what distance Proxima centauri is there.
20. What is meteoroid?
21. Name the India's first earth satellite.

Q B. Short questions Carrying 2 Marks:-

1. Differentiate between natural satellites and artificial satellites.
2. What are comets? Why are they called time keeper? Explain with an example.
3. Why pole star appears to be stationary? Give the diagram.
4. What is the distance of sun from the earth? How much time does the light take to reach on earth's surface from the sun?
5. Which planet is called hottest planet? Why?
6. Which planet is called red planet? Why?
7. What is the revolution and rotation period for our earth?
8. What do you mean by dwarf planets? Give examples.
9. What is geostationary satellite? Write its use.
10. What are 'Polar Satellites'? Write its use.
11. Why the stars have their own light?
12. What are the different types galaxies?
13. Write short notes on Milky Way Galaxy.
14. How do artificial satellites help in broadcasting / T. V transmission?
15. What are GPS? Write their uses.
16. Why do stars appear to move from east to west?
17. What are the constituents of solar system?
18. Why is it said that comets have tail?
19. What is waxing? What is waning?
20. Briefly explain about constellations Scorpius and Cassiopeia.
21. Why is mercury very hot during the day and very cold during the night?
22. Differentiate between terrestrial planets and Jovian planets.
23. Name 4 Indian satellites.

Q C. Long questions carrying 3 marks:-

1. Briefly explain different phase of moon with diagram.
2. Differentiate between planets and stars.
3. Differentiate between meteors and meteorites.

4. State the structural pattern of constillations Orion and Ursaminor. How many stars are present in them?
5. Briefly explain the structure of Versa Major Constellation. How can you locate pole star with the help of this constellation?
6. Differentiate between constellations and galaxies.
7. What had happened on 16th January 2003?

Q D. Long Questions Carrying 5 marks:-

1. Write 5 applications of artificial satellite.
2. Write a short note on the sun and the solar system. Also mention the sun's composition and its temperature.
3. How do different seasons take place on earth? Explain with diagram.

CHAPTER – FORCE & PRESSURE

Q A. Very short questions carrying 1 mark :-

1. Write S.I unit and C.G.S unit of force -
2. Gravitational value for earth is –
3. Kgf is the unit of -
4. The force acting per unit area of the surface is called –
5. Weight is measured by -
6. Thrust is a type of –
7. 1 N = _____ dyne
8. 1 kgwt = _____ N
9. S.I unit of thrust is –
10. At sea level, atmospheric pressure is about –
11. Name the instrument used to measure blood pressure –
12. Name the instrument used to measure pressure and atmospheric pressure –
13. On what factors pressure depend?
14. $F_1 \overrightarrow{10 N}$ $W \overrightarrow{20 N}$ F_2 In the given diagram find the resultant force and its direction.
15. Define one newton.
16. Define one Kgf.
17. Define one dyne.
18. What is byount force?

Short Questions carrying 2 marks

Q B. Answer the following questions :-

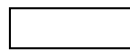
1. Define pressure. How does it vary with height.
2. Distinguish between mass and weight.
3. Give one example of mechanical force and muscular force.
4. State Pascal's law.

5. Why are nails made pointed at one end and flat at the other end?
6. Why are the rear wheels of a tractor very wide?
7. Define atmosphere pressure and write its magnitude.
8. Why does a fountain pen start leaking at higher altitudes?
9. Why does nose bleeding take place at high altitudes?
10. Why the straps of school bags are made wide?
11. Why do porters wear turbans while carrying loads?
12. Why the people in cold region wear big size shoes?
13. Why the bases of the water reservoirs are made wide?
14. Bottom parts of submarines are built with hard, thick sheets of metal – why?
15. It is easy to cut an apple with a sharp knife why?
16. Why do we go deep into the soft spongy cushion on standing position than in lying position?
17. Why the tractors have big wheels with broad tyres?
18. Why rail tracks are fixed with wide wooden or steel sleepers?
19. Why army tanks run on steel belts and not on wheels?

Questions Carrying 3 marks:-

1. What charges force can bring when it is applied on a body?
2. Write three differences between contact and non-contact forces.
3. Write the basic principle of Hydraulic machine. How does it work?
4. State an activity to show that pressure decreases with height.
5. If a force of 32 N is applied the two blocks, then on which pressure will be more ?

Why? Find Pressure.



5 cm



3 cm

Long question carrying 5 marks

1. State an activity to show that pressure gets equally transmitted in liquid.

Chapter – Friction

Very short questions carrying 1 mark

Q A. Choose the correct answer –

1. Friction can be increased by
 - i) Making the surfaces rough
 - ii) Lubricating the surfaces
 - iii) Using ball bearings
 - iv) Using streamlined shapes
2. Which of these lowers friction?
 - i) Wheels
 - ii) Grooves
 - iii) Spikes
 - iv) Grooves
3. In which case is friction a disadvantage?
 - i) Running of a machine
 - ii) Walking
 - iii) Applying brakes
 - iv) Writing
4. Which of these is not correct in a world where there is no friction?

- i) You would not be able to walk
- ii) Automobiles would not be able to run on the roads
- iii) You would not be able to warm your hands by rubbing them together
- iv) Automobile brakes would work very well

5. Fill in the blanks:-

- a) _____ Friction is less than sliding friction.
 - b) Generally _____ is used as a lubricant for heavy machinery.
 - c) A shape that is very narrow in front and broader at the back is called a _____ shape.
 - d) Air friction is also known as _____.
 - e) Ball bearings reduce friction by replacing sliding friction by _____ friction.
6. What is friction?
 7. What is drag?
 8. Define limiting friction.
 9. What is a lubricant?
 10. Name two machines which use streamlining to reduce friction.
 11. What is rolling friction?
 12. Is friction a self – adjusting force?

Q B. Short Questions carrying 2 marks

1. Why are the worn out tyres discarded?
2. Write two advantages of friction.
3. Write two disadvantages of friction.
4. Write two ways to minimize friction.
5. Why do athletes wear shoes with spikes?
6. Why are the soles of our shoes and rubber tyres on the rim of the wheels on vehicles grooved?
7. Differentiate between rolling and sliding friction.
8. How do trees help to reduce the speed of moving air?
9. What is the greatest challenge to spaceships while moving through atmosphere (air)?
10. Engine of a car gets heated on running. Why?

Q C . Questions carrying 3 marks

- i) Why do we call friction a 'necessary evil'?
- ii) Sometimes we have to increase friction. Discuss three situations where it is necessary to do so.
- iii) How does frictional force vary with change in roughness of the surfaces?
- iv) If there was no friction, what would happen to moving object?
- v) Why do our hands slip when we try to hold a glass with oil.

Chapter – Electricity and its chemical effect**Very short questions carrying 1 mark**

1. A positively charged body has a _____ of electrons.
2. Which of these is better for use in a tester for testing conductivity of liquids – electric bulb or LED?
3. During electroplating, copper is deposited at the _____.
4. Expensive metals are protected by _____.
5. What is electric current?
6. How is electronic current different from conventional current?
7. What is an electrolyte?
8. Why is zinc electroplated on iron?
9. Define electrolysis.
10. Define electrolytic cell.
11. What do you mean by an LED?
12. What is electro refining?

Q B. Short Questions carrying 2 marks

1. Differentiate between conductors and insulator.
2. Differentiate between closed circuit and opened circuit.
3. Solid copper sulphate does not conduct electricity, but when it is dissolved in water, it conducts electricity why?
4. Why should you not touch electrical appliances with wet hands?
5. Name the electrodes and electrolyte used for giving gold coating over silver articles.
6. Why is pure water a bad conductor of electricity?
7. Differentiate between electrolyte and non-electrolyte.

Q C . Questions carrying 3 marks

1. Draw a circuit diagram showing a dry cell connected to a bulb through a switch.
2. What happens when an electrolyte is dissolved in water and then an electric current is passed through it.
3. What happens when electricity is passed through tap water?
4. What are the advantages of electroplating?
5. Briefly explain the voltaic cell.
6. Differentiate between voltmeter and voltammeter.
7. How can you give copper coating on iron spoon?
8. Write three applications of electrolysis.
9. What are the advantages of electroplating?

Q D .Long questions carrying 5 marks

1. State an activity to show that an electric current can bring about a chemical change?
What is this phenomena called?
2. Write 5 uses of electroplating, giving the reason for electroplating in each case.
3. Explain the electrolysis of water with the help of a diagram. Write the chemical equation.

CHEMISTRY

CH—METALS & NONMETALS

Very Short Answer type Qs

1. What is the general name of the elements whose properties are intermediate between those of metals & nonmetals?
2. Name 1 metal & 1 non-metal which exists in liquid at room temperature.
3. Name the property.
 - a) Which allows metals to be hammered into thin sheets?
 - b) Which enables metals to be drawn into wires?
4. Name two metals which are soft and can be cut with the knife?
5. When a metal produces ringing sound when dropped into ground, what is this property of metal known as?
6. Name the property of iron metal due to which it can be hammered to make objects of different shape, such as: axe, spade, shovel.
7. Name a non-metal which is very hard.
8. Name a non-metal which is good conductor of electricity.
9. State one chemical property which distinguishes a metal from a nonmetal.
10. How do metal oxides differ from nonmetal oxides?
11. An element forms acidic oxide. Is the element a metal or nonmetal?
12. An element forms basic oxide. Is the element a metal or nonmetal?
13. Write a word equation for the reaction of magnesium with oxygen.
14. Name the gas evolved when a metal reacts with water.
15. Name the gas evolved when a metal reacts with dilute acid.
16. Name one metal which reacts with dilute HCl to produce hydrogen gas.
17. Name one metal which does not react with dilute HCl.
18. Which metal is more reactive iron or zinc?
19. Which metal is less reactive Cu or Fe?
20. Name any five objects which are used in our daily life which are made of metals.
21. Name 2 metals which are used for making electric wires.
22. Name 2 metals used for making cooking utensils and water boilers for factories.
23. Where is iron present in our body?
24. Name two metals used to make jewelries.

25. Which metal is used to galvanize iron to protect it from rusting
26. Name the metal used to make thin foil for packaging things.
27. Name the metal used in thermometers.
28. Name two metals used in firework.
29. Which nonmetal is used in water purification process?
30. Name 1 non-metal used in making fertilizers.
31. Which non-metal is used as a fuel?
32. Iron reacts slowly with the oxygen and moisture to form rust. State whether the rust is acidic, basic, or neutral.

SHORT ANSWER TYPE QUESTION (2 marks each)

1. State two physical properties on the basis of which metals can distinguish from the nonmetals.
2. Name the gas produced when aluminum foil reacts with
 - a. Dilute HCl
 - b. NaOH solution
3. State any two physical properties for believing that aluminum is the metal.
4. Define malleability.
5. Define ductility.
6. What is meant by saying metals are
 - a. Malleable
 - b. Ductile
 - c. Lustrous
 - d. Sonorous.
7. There are two boxes one made of metal and the other of wood, which are similar in appearance .how will you find which box is made of up metals.?
8. Consider the following materials:
Copper, Sulphur, phosphorous, carbon (pencil lead),gold, silver.
Which of these materials are?
 - a. Malleable and ductile
 - b. Brittle
9. Can you hold a metallic pan which is without a plastic or wooden handle? Give reason.
10. The screw driver used by an electrician has a plastic or wooden handle. Why?
11. What is the nature of the following oxides:
 - a. Magnesium oxide
 - b. Sulphur oxide
12. What type of oxides are formed
 - a. When metals combine with oxygen
 - b. When nonmetals combine with oxygen.
13. Consider the following elements
Sodium, Sulphur, carbon, magnesium.

Which of these elements will form?

- a. Acidic oxide
- b. Basic oxide

14. What happens when a copper vessel is exposed to moist air for a long time?

SHORT ANSWER TYPE (3 MARKS EACH)

1. Compare the properties of metals and nonmetals with respect to
 - a. Malleability
 - b. Ductility
 - c. Conduction of heat and electricity
2. Give reasons:
 - a. Copper is used for making electric wires
 - b. Graphite is used as electrode in a cell
 - c. Immersion rods for heating liquids are made of metallic substance
3. Sodium metal reacts vigorously with water.
 - a. Name the gas evolved when Na reacts with water
 - b. State whether the solution formed is acidic or basic
 - c. Write the overall equation
4. Give one use of each of the following metals:
Iron, copper, aluminum, zinc, mercury, gold.
5. Give one use of each of the following nonmetals:
 - a. Oxygen
 - b. Nitrogen
 - c. Sulphur
 - d. Chlorine
 - e. Iodine
 - f. Diamond

LONG ANSWER TYPE QUESTION

1. (A) what are metals? Name five metals
(B) What is nonmetal? Name five nonmetals
2. A) What are metalloids? Name two metalloids B). Classify the following elements into metals, nonmetals and metalloids.
Copper, Sulphur, aluminum, oxygen, silicon, nitrogen, germanium mercury, chlorine, sodium.
3. A) What happens when Sulphur dioxide is dissolved in water? Write a word equation for the reaction
B).What happens when an iron nail is placed in copper sulphate solution? Write the word equation for the reaction.
4. State five uses of metals and five uses of nonmetals.
5. Differentiate between metals and nonmetals on the basis of their physical properties.
6. Compare the chemical properties of metals and nonmetals in tabular form.

MCQ:

1. Which one of the following 4 metals would be displaced from the solution of its salt by the other three metals?
 - a. Zinc
 - b. Silver
 - c. Copper
 - d. Magnesium

2. Sulphur element is said to be
 - a. Ductile
 - b. Hard
 - c. Malleable
 - d. Brittle
3. The nonmetal which exists in liquid state at room temperature is
 - a. Fluorine
 - b. Chlorine
 - c. Bromine
 - d. Iodine
4. A basic oxide will be form by the element
 - a. Sulphur
 - b. Phosphorous
 - c. Potassium
 - d. Carbon
5. The metal which ill not produce hydrogen gas on reacting with dilute sulphuric acid is
 - a. Sodium
 - b. Silver
 - c. Iron
 - d. Zinc
6. Element which is stored in the kerosene is
 - a. Sulphur
 - b. Phosphorous
 - c. Sodium
 - d. Silicon
7. Which of the following pairs undergo displacement reaction?
 - a. FeSO_4 and Mg
 - b. ZnSO_4 and Fe
 - c. ZnSO_4 and Ca
 - d. AgNO_3 and Cu
8. Which of the following metal exists in liquid state at room temperature?
 - a. Manganese
 - b. Magnesium
 - c. Mercury
 - d. Iodine
9. Which one is the metalloid?
 - a. Carbon
 - b. Sodium
 - c. Sulphur
 - d. Silicon
10. Least reactive metal is
 - a. Magnesium
 - b. Silver
 - c. Diamond
 - d. Platinum
11. Which among the following is the most reactive metal?
 - a. Cu
 - b. Ca
 - c. Fe
 - d. Mg
12. Which of the following is not a characteristic property of iron?
 - a. Malleability
 - b. Ductility
 - c. Brittleness
 - d. Sonorous

CH -- SOURCES OF ENERGY

VERY SHORT ANSWER TYPE

1. Name 3 useful products of coal.
2. Which product is used as a reducing agent in extraction of metals?
3. Name an important source from which naphthalene balls are obtained.
4. Which substance is used for metalling the roads instead of coal tar?
5. Name the most commonly used fuel in light motor vehicles.
6. Name the fuel used in jet engines.
7. What is the full form of LPG?
8. What is the full form of CNG?
9. Name the major component of natural gas.
10. Name any 2 places in India where natural gas is found.
11. Name a fossil fuel other than coal & petroleum.

12. Name 2 places in India where coal is found.
13. What is the full form of PCRA?
14. Name 5 Places in India where petroleum is found.
15. Is it possible to find petroleum under sea bed?
16. Name the petroleum product which is commonly used for electric generators.
17. Name the petroleum product used to drive heavy vehicles.
18. Define carbonization.
19. What are the 2 types of natural resources?
20. Name the least polluting fuel for vehicles?

SHORT ANSWER TYPE

1. Explain why fossil fuels are exhaustible natural resources.
2. Describe how coal was formed. What is this process called?
3. What happens when coal is heated in air?
4. State any 2 uses of coal.
5. What are the constituents of coal gas? State 1 use of it.
6. State various uses of coal gas.
7. What is CNG? State 1 use of it?
8. Where natural gas is found? Why is natural called as clean fuel?
9. What are the advantages of using LPG as fuel?
10. Name an 5 useful substances which are manufactured from petrochemicals.
11. Which material is called 'black gold'? Why?
12. a. Where & when was 1st oil well drilled?
b. Where & when was oil 1st struck in India?
13. State 1 use each of the following:
a. petroleum gas b. petrol c. diesel d. lubricating oil
14. What is the main cause of water pollution? Write the various tips for minimizing the wastage of petrol/diesel while driving vehicles.

LONG ANSWER TYPE

1. A. What is meant by inexhaustible natural resource? Give 2 examples
B. What is meant by exhaustible natural resource? Give 2 examples.
2. A. What are fossil fuels? Name 3 fossil fuels.
B. Describe how fossil fuels were formed.
3. A. What are petrochemicals? Name any 2 petrochemicals.
B. Why are petrochemicals so important?
4. a. What is petroleum? Where does petroleum occur?
b. Describe the process of formation of petroleum.

MCQ

- Which 1 of the following is not a fossil fuel?
a. Petrol b. Coke c. Charcoal d. Coal
- The major component of LPG is:
a. Hydrogen b. Carbon monoxide c. Methane d. Butane
- The major component of CNG is:
a. Ethane b. Propane c. Methane d. Butane
- The gas which occurs above petroleum oil trapped under the rocks is called:
a. Biogas b. Petroleum gas c. Natural gas d. Coal gas
- Which 1 of the following is not an exhaustible source of energy?
a. Natural gas b. coal gas c. petroleum gas d. biogas
- Which 1 is used as reducing agent in extraction of metals?
a. Coal b. Charcoal c. Bitumen d. Coke
- The various compounds present in coal tar are separated by:
a. Simple distillation c. destructive distillation
b. Fractional distillation d. Fractional crystallization

Ch - POLLUTION OF AIR

VERY SHORT ANSWER TYPE

- Name the gas present in atmosphere which is mainly responsible for global warming.
- Name 2 gases which causes acid rain.
- Name all the major pollutants of air.
- Which air pollutant combines with haemoglobin of air?
- Name the various pollutants discharged by motor vehicles exhausts.
- Which gas helps us from the harmful UV radiations coming from sun?
- Name 2 greenhouse gases.

SHORT ANSWER TYPE

- How do industries cause air pollution?
- How can you help reduce air pollution at the individual level?
- Explain the difference between pure air & polluted air.
- What is greenhouse effect? State its importance for us.
- Name 2 greenhouse gases. Which 1 of them produces the maximum greenhouse effect?
- What depletes the ozone layer? What are the harmful effects of the depletion of ozone layer on us?
- Name 1 source & 1 harmful effect of each of the following air pollutants:
a. Sulphur dioxide b. Nitrogen oxides c. Carbon monoxide d. CFCs
- A. Describe the threat to TajMahal due to air pollution.

B. State any 2 ways of controlling air pollution.

LONG ANSWER TYPE

1. A. What is air? Write the names of various constituents of air.
B. What is air pollution? Name the various sources of air pollution.
2. What is smog? How is Smog Formed? What are its harmful effects?
3. What is acid rain? How is acid rain caused? What are the harmful effects of it?
4. What is global warming? What are the harmful effects of it ?

MULTIPLE CHOICE QUESTIONS

1. Which of the following is not a greenhouse gas?
a. Carbon dioxide b. Nitrous oxide c. Methane d. Nitrogen
2. Which of the following air pollutant reduces the oxygen carrying capacity of blood to a large extent?
a. Carbon dioxide b. Nitrogen monoxide
c. Carbon monoxide d. Sulphur dioxide
3. The gas which produces acid rain is:
a. Nitrogen b. Sulphur dioxide c. Oxygen d. Argon
4. Which statement about ozone is correct?
a. It is essential for breathing b. It absorbs UV rays
c. Its proportion in air is 3 % d. It is mainly responsible for global warming
5. Which of the following is not an air pollutant
a. Sulphur dioxide b. Sewage c. CFCs d. Carbon monoxide
6. One of the following does not contribute in producing acid rain.
a. Nitrogen dioxide b. Carbon monoxide
c. Nitrogen monoxide d. Sulphur dioxide
7. Which of the following is capable of preventing photosynthesis in plants?
a. CFCs b. Dust c. Carbon monoxide d. Nitrogen oxides

BIOLOGY

CELL: STRUCTURAL AND FUNCTIONAL UNIT OF LIFE

VERY SHORT ANSWER TYPE (1 mark each)

1. Define cell.
2. What is the diameter of ostrich egg.
3. Name the apparatus used for viewing small objects.
4. Who discovered cell? In which year?
5. What do we call an organism made up of many cells?
6. Which type of cells have less developed nucleus?
7. What is cell wall? Where it is present?
8. Why mitochondria are known as "powerhouse" of cell?

9. Which cell organelle helps in photosynthesis?
10. Which organelles are known as “suicidal bag” of the cell?
11. Why plasma membrane is called semi-permeable membrane?
12. Who is the control center of cell?
13. Define tissue?
14. Give the name of one cell organelle that helps in protein synthesis?
15. What is the composition of cell wall?
16. Plasma membrane is made up of which material?
17. What are vacuoles? How many types of vacuoles are found in cell?
18. Who gave cell theory?
19. Who coined term “protoplasm”?
20. What are the threads like structure present in nucleus? What is their function?

MULTIPLE CHOICE QUESTION (1 MARK EACH)

1. Animal cell do not have
 - a. Mitochondria
 - b. Chloroplast
 - c. nucleus
 - d. plasma membrane
2. Plants cell do not have
 - a. Mitochondria
 - b. Chloroplast
 - c. Lysosomes
 - d. Nucleus
3. The ribosomes helps in
 - a. Digestion of food
 - b. Photosynthesis
 - c. Protein synthesis
 - d. Cell secretions
4. Chromosomes are located in
 - a. Plastids
 - b. Nucleus
 - c. Golgi apparatus
 - d. Centrosomes
5. Cells have an outer covering called
 - a. Endoplasmic reticulum
 - b. Ribosomes
 - c. Nucleus
 - d. Cell membrane.
6. Photosynthesis is helped by
 - a. Golgi complex
 - b. Plastids
 - c. Ribosomes
 - d. Mitochondria
7. Powerhouse of cell lies in
 - a. Golgi complex
 - b. mitochondria
 - c. Ribosomes
 - d. Plastids
8. Which of the following is not found in plant cell
 - a. Cell wall
 - b. Plasma membrane
 - c. Vacuoles
 - d. Centrosomes

SHORT ANSWER TYPE QUESTION (2 marks each)

1. What is protoplasm? How protoplasm is different from cytoplasm?
2. Name the two type endoplasmic reticulum found in cell.
3. Who observed the cell for first time? How was he able to observe the tiny cell?
4. Give two examples of unicellular organisms.
5. Give 4 examples of multicellular organism.
6. Differentiate between prokaryotic and eukaryotic cell.

7. What is chloroplast? What is its function?
8. Name the cell organelle only found in animal cell. What is its function?
9. Expand ATP .where is the ATP generates inside the cell?
10. What is the difference between cell wall and plasma membrane?
11. List the organelles commonly found in plant and animal cell.
12. Where are the ribosomes present? What is its function?
13. Why the cells are called basic unit of structure and function?
14. Why nucleus is considered as brain of cell? .list at least 2 function of nucleus.
15. How do the plants and animal cell store food and water?
16. Who are known as “store house” of cell? List two function of it.
17. What are cilia and flagella? Give example of two animals having cilia and flagella respectively.
18. Write down two function of chromosome.
19. When do the chromosomes appear in the cell? What is the function of chromosome?
20. Write two point differences between plant and animal cell.

SHORT ANSWER TYPE (3 Marks each)

1. Write down the name of the following scientist :-
 - a. Who discovered cell for the first time.
 - b. Proposed cell theory.
 - c. Discovered live cells.
2. How does the amoeba obtain its food.
3. Write down the difference between plant cell and animal cell.
4. Differentiate between prokaryotic cell and eukaryotic cell.
5. What are the three main components of cell? State one function of each component.
6. How cell wall is different from plasma membrane?
7. Describe the structure and functions of mitochondria.
8. What are the functions of Golgi complex in cell? What will happen to cell if Golgi bodies are removed?
9. What are two different E.Reticulum present in cell? Write down at least two functions of E.Reticulum.
10. Write down the structure of nucleus .state its function.
11. What is “chromatin material”? What is its function?
12. What enzymes are present in lysosomes? What is its function? What will happen to cell if its bursts?
13. Write down the names of single membrane bound cell organelles. What are their functions?
14. Why does the cell need protein? Who helps in protein synthesis?

15. What are centrosomes? Where do we find them? What is their function?

LONG ANSWER TYPE (5 marks)

1. Draw a neat labeled diagram of plant cell and label it.
2. Draw a diagram of plant cell and label it.
3. Distinguish between plant and animal cell with the help of a diagram.
4. Write down the structure, function and location and draw the diagram of following part of the cell:-
a. Nucleus b. Cell membrane
5. Write down the structure, function and location and draw the diagram following cell organelle:-
a. Mitochondria b. Golgi complex
6. Write down different types of plastids found in plant cell. Explain their function.
7. Write down the difference between prokaryotes and eukaryotes.

MICROORGANISMS: FRIEND AND FOE

VERY SHORT ANSWER (1 mark each)

1. What is the study of microorganisms known as?
2. What are disease causing microbes called?
3. Name two diseases caused by virus.
4. Which animals are called protozoa?
5. Which microorganisms are used for baking and preparation of alcohol?
6. Name the scientist who discovered penicillin.
7. Name the bacterium that converts milk into curd.
8. Name the bacterium that synthesizes vitamin B in animal intestine.
9. The process of conversion of sugar into alcohol is known as?
10. Who discovered "vaccine"?
11. List two diseases caused by bacteria?
12. List two diseases caused by protozoans.
13. What are antibiotics?
14. List two diseases where mode of transmission is air.
15. Name the microorganism that causes "anthrax"?
16. Name two plant diseases.
17. What do you mean by "canning"?
18. Name two common ingredients used as preservatives.
19. Name two fruits which can be preserved by drying.
20. What is pasteurization?

MULTIPLE CHOICE QUESTION (1 mark each)

1. Disease causing microbes are called:
a. Virus b. Bacteria c. Pathogens d. Microorganisms
2. Ringworm is caused by :

- a. Bacteria b. Virus c. Protozoa d. fungi
3. Which among the following microorganism have characteristic of both living and non-living organisms
a. Bacteria b. Algae c. Mosses d. Virus
4. Name the process use to convert sugar into alcohol by using yeast:
a. Fermentation b. Vaccine c. Pasteurization d. Sterilization.
5. Iodine is obtained from
a. Euglena b. Rhizobium c. Chlorella d. Yeast
6. Which gas is evolved during fermentation process
a. Oxygen b. Hydrogen c. Carbon dioxide d. Helium
7. Which among the following is a waterborne disease
a. Amoebiasis b. Chickenpox c. Typhoid d. Malaria
8. Which among the following is not a plant disease
a. Blight of apple c. Ring disease in potato
b. Black rot of cabbage d. Leprosy
9. Who among the following developed a vaccine for rabies?
a. Louis Pasteur c. Alexander Fleming
b. Leeuwenhoek d. Elic Metchnikoff
10. Yeast is a unicellular
a. Cockroach b. Mosquito c. Housefly d. Spider

SHORT ANSWER TYPE (2 marks type)

1. Why a little amount of curd is added to milk when we have to make curd? Name the bacteria which help in turning milk into curd.
2. What is nitrogen fixation? Name the bacteria and other microorganisms which help in nitrogen fixation.
3. Give names of two air borne disease.name the causative agents of these diseases
4. What is pasteurization? Who developed this process?
5. List two harmful effects of microorganisms.
6. How microorganisms are useful to us. Give at least two usefulness of microbes.
7. Name two antibiotics obtained from bacterium "Streptomyces".
8. What do u you mean by vaccination? Give example of two diseases for which vaccination is done
9. Who was the first scientist to discover microorganisms and how?
10. Why viruses are different from other microorganisms? Explain.
11. How do we save milk from spoilage? What is that method known as?
12. Name two common technique of food preservation.
13. What do you mean by pathogens? Give examples of various pathogens.

14. Name the diseases caused by bacteria.

15. Name the diseases caused by virus.

SHORT ANSWER TYPE (3 Marks each)

1. Name the diseases caused by

a. Protozoa

b. Fungi

c. Bacteria

2. Write down three commercial uses of microbes.

3. How is yeast a useful microorganism? List various usefulness of yeast.

4. Explain why pickles and packaged food do not get spoiled after packaging for many days?

5. Explain the process of pasteurization. Name the scientist who proposed this technique.

6. Name 3 plant diseases that occur in plants.

7. What are antibiotics? How are antibiotics useful to us? Name two antibiotics obtained from fungus and bacteria respectively.

8. What do you understand by immunity? What is the way to build immunity?

9. How are microorganisms useful in agriculture?

10. Who discovered vaccine? How?

NAME OF THE DISEASE	MICROORGANISMS THAT CAUSE THE DISEASE	ANIMALS INFECTED
Foot and mouth disease	_____	cattle
Rabies	virus	_____
Tuberculosis	_____	Cattle, poultry

11. Give reasons:

a. Ripened fruit do not rot when placed in a deep freeze.

b. Milk takes long time to form curd during winter.

12. Give the name of plant disease caused by:

a. Bacteria

b. Virus

c. Fungus

13. What is food poisoning? Give names of bacteria and fungi which causes food poisoning?

14. Give reasons

a. Milk gets spoiled quickly in summer.

b. Curdling of milk takes place when a little curd is added to it.

LONG ANSWER TYPE (5 mark each)

1. List the various methods of food preservation (any five)

2. Name five major groups of microorganisms each with two examples.

3. In what ways are bacteria

a. Useful

b. Harmful

4. What are communicable diseases? List some of the carriers of microbes and write the diseases caused by them.

5. What is food poisoning? How does it occur? Name the microorganisms that cause food poisoning.
6. What is fermentation? What is the role of yeast in fermentation? What are the different commercial uses of yeast.

CONSERVATION OF PLANTS AND ANIMALS

STUDY MATERIALS FOR CLASS -8 SA-1

VERY SHORT ANSWER TYPE (1 MARK EACH)

1. Define species.
2. What do you mean by 'biodiversity'?
3. What do you mean by deforestation?
4. What is disrupted river flow?
5. What do you mean by ecosystem?
6. What is a biosphere reserve? How many biosphere reserves are present in India?
7. In which state Bandipur national park is present?
8. Name the first national park established in India. In which year?
9. On which day every year international biodiversity day is observed?
10. What do you mean by scavengers?
11. Kaziranga national park is famous for which animal?
12. What constitutes flora of a place?
13. What constitutes fauna of a place?
14. Name the turtle sanctuary famous as "breeding ground of turtles" present in Orissa.
15. Jayakwadi bird sanctuary is present in which state?
16. What do you understand by term extinction?
17. Name the extinct bird which was an endemic species of from Mauritius.
18. What do we call the replanting of tree to raise forest?
19. What do you mean by migration?
20. What is paper recycling?
21. What is red data book?
22. What do you mean by 'vulnerable' species?
23. What is endemic species?
24. Expand IUCN.
25. Water is paper recycling?

MULTIPLE CHOICE QUESTION (1 MARK EACH)

1. Red data book contains list of

a. Endangered species	b. Extinct animals and plant
c. Exotic plants and birds	d. Rare species of plants and animals
2. First national park of India:

- a. Kaziranga national park b. Bandipur national park
c. Jim Corbett national park d. Bandhavgarh national park
3. Number of biosphere reserve in world is:
a. 15 b. 107 c. 533 d. 24
4. The extinct bird of Mauritius is:
a. Peacock b. Turkey c. Dodo d. Falcon
5. Which among the following is the domestic consequences of deforestation:
a. Disrupted river flow b. Flood c. Drought d. All of the above
6. Which among the following is the global consequence of deforestation?
a. Ozone depletion b. Flood c. Hurricane d. Tsunami
7. International biodiversity day is observed on:
a. 13 march b. 5 June c. 22 may d. 14 April
8. MAB is:
a. Programme on man and the biosphere b. Programme of man on biodiversity
c. Both a & b d. None of these
9. Flora refers to the:
a. Flower b. Animals c. All plant life d. None of these
10. Nandankanan is a:
a. Sanctuary b. National park c. Biological park d. All of the above

SHORT ANSWER TYPE (2 marks each)

1. What is deforestation? Write about 2 global consequences of deforestation.
2. What is drought? How does it occur?
3. What do you mean by wildlife conservation? How it is important?
4. What is biodiversity? Why conservation of biodiversity is important?
5. What is biosphere reserve? What do you mean by MAB?
6. How many biosphere reserves are there in world? How many of them are present in India?
7. List four of biosphere reserve in India which is based on the UNESCO man and the biosphere (MAB) Programme list?
8. What is national park? Give name of two national parks in India and in which state they are present.
9. In which state Bandipur national park is present? Why this reserve is important?
10. What is extinction? Give one name each of animal and bird which are extinct now.
11. What is red data book? What does it contains?
12. What do you mean by endangered species? Give two examples of endangered species.
13. What is vulnerable species? Give 2 examples.
14. What is endemic species? Give 2 examples.

15. What is migration? Why do animals and birds migrate?

SHORT ANSWER TYPE (3 MARKS EACH)

1. What is biosphere reserve? How many biospheres are there all over the world? How many biosphere reserves are there in India?
2. What is biodiversity? What is wild life conservation? Why conservation of biodiversity is essential?
3. Distinguish between national park and wildlife sanctuary.
4. Differentiate between endemic and vulnerable species. Give examples.
5. Differentiate between endangered species and endemic species. give examples
6. What is IUCN? What is its function? Where the list of threatened animals and plants is published?
7. What do you know about the bird "dodo"? What impact it has on the trees of Mauritius and why?
8. Give at least three causes of extinction that are induced by human activities.
9. What is "forest conservation act"? Why it was introduced? What is afforestation?
10. What is migration? Why do animals and birds migrate? How birds navigate such a long distance?
11. What is recycling of paper? How it is important? What is the paper suitable for recycling is called?
12. Give the name of three national parks which are tiger reserves. Name the states in which these are located.
13. What are the causes of extinction of endemic species? List some natural disasters which are a danger to biodiversity.
14. Explain "excessive exploitation of natural resources leading to degeneration of biodiversity".
15. What is the importance of biodiversity for human being? Name the two main reserves that protect biodiversity.

LONG ANSWER TYPE (5 mark each)

1. What is deforestation? What are the various Global consequences of deforestation?
2. Explain the various domestic consequences of deforestation.
3. Write a note on biosphere reserve. Give name of four major biosphere found in India.
4. List five biosphere of india.name the animals found in it and the state in which they are located.
5. Differentiate between
 - a. National park and wildlife sanctuary
 - b. Endemic species and endangered species

6. How vulnerable species is different from endangered species. Give two examples each of vulnerable species and endangered species. What are the various steps taken for conservation of endangered species?

SUBJECT- ENGLISH

CHAPTER -1 THREE QUESTIONS by Leo Tolstoy

I. Answer the following (2 marks each)

- a) What were the three questions that occurred to the king ?
- b) What did the king proclaim throughout the kingdom ?
- c) What answers did the learned men give to the king ? (any 2 answers)
- d) Why the king was not satisfied with the answers given by the learned men ?
- e) Why did the king think of visiting the hermit ?
- f) What was the hermit doing when the king approached him ?
- g) What was the condition of the bearded man when he came running out of the wood ?
- h) Why did the king crouched down on the threshold ?
- i) ' I do not know you, and have nothing to forgive you for' . Who said this line ?
- j) Why the king was very glad when he heard the story of the bearded man ?
- k) What was the most important time according to the hermit as answered to the king ?

II. Answer the following (3 marks each)

- a) The king went to the wise hermit alone and dressed like a commoner. Why ?
- b) What were the answers given to the second question by the learned men ?
- c) Describe about the appearance of the hermit ?
- d) What reaction did the hermit show when the king asked the questions ?
- e) Who was the bearded man ? Why he wanted to kill the king ?
- f) How did the king and the hermit take care of the bearded man ?

III. Answer the following (5 marks each)

- a) " The most necessary man is he with whom you are, for no man knows whether he will ever have dealing with anyone else; and he most important affair is, to do him good, because for that purpose alone was man sent into this life!" Explain
 - b) Explain the answer the king got to his three questions ?
 - c) Imagine you are the bearded man . Write a diary entry expressing your experience with the king and the hermit ?

IV. Read the following extract and answer the questions that follow. (1 mark each)

- I. " You do not know me, but I know you."
 - i. Who said this and to whom ?
 - ii. Who is the author of "Three questions" from which this extract is taken?
 - iii. When did the person say this above line ?
 - II. " Here comes someone running ."
- i. Who said this and to whom ?
 - ii. Who came running towards the hut ?
 - iii. What was his purpose ?

CHAPTER – 2 GRANNY'S TREE CLIMBING by Ruskin Bond

I. Answer the following questions (1 mark each)

- a) " My grandmother was a genius."

- i. Whose grandmother was a genius ?
- ii. Why she was a genius ?
- iii. What is the synonym of genius ?
- b) " I climb to her room with glasses and a tray "
 - i. Who is I in the above line ?
 - ii. Why does I climb to her room ?
 - iii. What is the purpose of glasses and a tray ?
- c) " –but it was feared by all
That one day she'd have a terrible fall.
The outcome was different-----"
 - i. What did everyone fear ?
 - ii. What did this outcome lead to ?
 - iii. What was the outcome ?

II. Answer the following questions (3 marks each)

- a) At what age did Granny learn climbing trees , and who taught her to climb trees ?
- b) What happened one day when grandmother climbed a tree ?
- c) What advice was given by the doctor to grandmother ?
- d) Why a tree-top house was made for grandmother ?
- e) What things does the narrator carry to his granny's tree-top house daily and why ?

III. Answer the following questions (5 marks each)

- a) Imagine you are Grandmother . Write a letter to your friend describing how you were successful in staying on a tree-top house ?
- b) Write a diary entry expressing your feeling and your experience you had with your grandmother. You are Ruskin Bond.

CHAPTER – 3 THE FUN THEY HAD by Isaac Asimov

I. Answer the following questions (2 marks each)

- a) What did Margie's grandfather once said to him ?
- b) Why was it awfully funny to read words ?
- c) How old were Margie and Tommy ?
- d) Why was Margie scornful when she heard the word 'school' ?
- e) What comment did the Inspector give about Margie to her mother ?
- f) Why did Tommy looked at Margie with superior eyes and what did he say ?
- g) What comment did Tommy give about teachers ?
- h) Describe about Margie's schoolroom ?

II. Answer the following (3 marks each)

- a) Why had Margie started hating her school more than ever ?
- b) Why did Margie hate the geography sector the most ?
- c) What is Tommy referring to as a waste ? Is it really a waste ?
- d) What conclusion did Margie draw about schools at last ?
- e) Describe about the appearance of the County Inspector ?

III Answer the following (5 marks each)

- a) Margie wrote a letter to her friend describing how she was not satisfied with the geography sector . Imagine you are her friend Aayushi . Write a letter to her helping her out of the problem ?
- b) Write an article for your school magazine expressing your opinion about the perfect school you dream of .

IV. Read the extract and answer the questions that follow . (1 mark each)

1. “ In my house. He pointed without looking because he was busy reading.”
 - I. Who said the above lines and to whom ?
 - II. What did he find in his house ?
 - III. What was he exactly pointing to and why ?
2. “ A man ? How could a man be a teacher ?”
 - I. Who said the above lines ?
 - II. Why did the person say the above lines ?
 - III. Was the person happy or surprised /

CHAPTER – 4 FATHER’S HELPby R.K. Narayan**I. Answer the following questions (2 marks each)**

- a. Why Swami was not happy when he got up from bed on a Monday morning ?
- b. What excuses did Swami make in order to avoid school?
- c. Swami’s father was not happy when he told that he won’t attend classes. What suggestion his father gave ?
- d. What excuses Swami gave about Mr. Samuel ?
- e. Swami went to school feeling that he was the worst perjurer on earth. Why ?
- f. For a moment Swami was angry on his father .Why ?
- g. What idea struck to his mind when Swami reached at the gate of the school ?
- h. State at least two reasons about how Swami was successful in creating nuisance in the class?
- i. Why was Swami happy when he was whacked by Mr . Samuel ?
- j. What reply did the peon give when Swami asked about the headmaster ?

II .Answer the following (3 marks each)

- a. Father’s behavior took an unexpected turn . What was unexpected about swami’s father’s behavior ?
- b. Why didn’t Swami hand over the complaint letter to the headmaster in the morning ?
- c. What impression do you form of Swami’s mother ?
- d. How far Swami is right in calling Samuel a violent man ? Give at least three examples.
- e. Why made Father snatch the envelope and tore it up?

III . Answer the following questions (5 marks each)

- a. Imagine you are Mr. Samuel . Write a letter to your friend describing your encounter with Swami and his behavioural approach .
- b. Imagine you are Swami . Write a diary entry describing how you felt when your father wrote a complaint letter against Samuel.

CHAPTER – 5 MY MOTHERby A.P.J. Abdul Kalam**I. Answer the following questions (1 mark each)**

- a. “ You come to me like heaven’s caring arms.
I remember the war days when life was challenge and toil.”
 - i. Who said the above lines ?
 - ii. What do you mean by heaven’s caring arms ?
 - iii. Identify the figure of speech in the 1st line ?

- b. **“ Your love, care, your faith gave me strength
To face the world without fear and with His strength.
We will meet again on the great Judgement day, My mother !”**
- Whose love , care and faith gave the speaker strength ?
 - With whose strength the speaker wants to face the world with fear ?
 - What do you understand by the great Judgement Day ?

II. Answer the following (3 marks each)

- What do you understand by kneeling and bowing five times ?
- Why did the poet have to walk so much early in the morning /
- Write a few lines showing your feelings about your mother ?
- What all hardships the poet had to suffer during war days ?
- Write a few lines about the poet ?

III. Answer the following (5 marks each)

- You presented a beautiful gift to your mother on her birthday. Describe your reaction and your mother’s reaction through a diary entry .
- Imagine you are the poet in the poem ‘ My mother’. Write a letter to your friend describing your experience during the war days.

CHAPTER – 6

THE CHILDREN’S SONG by Rudyard Kipling

I. Answer the following (1 mark question)

- “Teach us to bear yoke in youth,
With steadfastness and careful truth;
That, in our time, Thy Grace may give
The Truth whereby the nations live.”
 - What do you understand by yoke in youth ?
 - What does the poet mean by careful truth ?
 - Who is the writer of the above lines ?
- “Father in Heaven who lovest all,
Oh help Thy children when they call;
That they may build from age to age
An undefiled heritage.”
 - Who is Father described here ?
 - Why should the father of heaven help the children when they call ?
 - Explain the meaning of ‘undefiled ‘ ?

II. Answer the following (3 marks each)

- How does the poet wish to serve his motherland ?
- Explain the words Head , Heart, and Hand from the line “ head, heart and hand through the years to be !.
- Explain the line “ Mirth that has no bitter springs.”

III. Answer the following (5 marks each)

- Taking hints from the poem , write an article on the topic “ The Role Of Youth In Our’s Nation’s Development “.
- Show your love for your country through a short poem on your own ?

(HISTORY & CIVICS)**UNIT-II OUR PAST-III (PEOPLE & SOCIETY IN MODERN PERIOD)****THE MODERN WORLD**

Following questions carries 3 marks each:

- 1) How the books are an important source of information about the British period?
- 2) State with example the importance of letters, writings and speeches as an important source of information.
- 3) The old buildings, artifacts and people helped to know about British rule in India. Explain.
- 4) The internet is considered as one of the modern means of source in study of history. Justify
- 5) Describe any three source that gives us information about the British period.
- 6) What are the factors responsible for East India Company to become powerful?
- 7) Why British put restrictions on publishing of vernacular languages?
- 8) What is called the Modern period of Indian history and why it is called so?
- 9) What changes occurred in Indian society after coming of European countries?
- 10) Who took the leadership of India's independence and which strategy was applied for his struggle?
- 11) What kind of information or records we get from British Paper?

ESTABLISHMENT OF COMPANY RULE IN INDIA

Following questions carries 3 marks each:

- 1) How the age of imperialism began in India?
- 2) What do you mean by factories and how the factories were used by the used by the European trading companies?
- 3) The British applied several policies to control over Indian territories. Justify.
- 4) What were Carnatic wars? Why Indian rulers joined in those wars?
- 5) From which place, the trouble of 1st Carnatic war started? Which two rulers were supported by the colonial power and state its consequences?
- 6) With whom the French signed a secret treaty during the Second Carnatic war and what was its consequence?
- 7) When and among whom the battles of Plassey conducted and state any two consequences?
- 8) Among whom the battle of Buxar conducted? State the consequence of the war.
- 9) What was the reason for the outbreak of the Second Anglo-Mysore war and state the course of the war?
- 10) State any three consequences of Third Anglo-Mysore war.
- 11) Why was the Punjab army defeated in First Anglo-Sikh War?

- 12) In which year Regulating Act was passed? When and why Pitt's India Act was passed?
- 13) Explain Subsidiary Alliance.
- 14) Who passed Doctrine of Lapse and what was the provision?

Following questions carries 5 marks each:

- 1) How the European trading company established their trading centers in India? How could a trading company become an imperial power?
- 2) What are Carnatic wars? Among whom the war was conducted? State the consequence of wars?
- 3) Explain the causes of defeat of Siraj-ud-Daulah at the hands of the English.
- 4) What immediate changes occurred in Bengal after battle of Plassey? Why Mir Jafar was replaced by the British?
- 5) Describe the measures adopted by the English to expand their empire in India.
- 6) How many wars did the British fight against the Marathas? What were the consequences of the 3rd Anglo-Maratha war?

COLONIALISM: RURAL AND TRIBAL SOCIETIES

Following questions carries 3 marks each:

- 1) Who and when introduced the Permanent Settlement in India? State its provision.
- 2) Who and where introduced the Ryotwari system? How the farmers were suffered due to this system ?
- 3) Where did Mahalwari system prevail? State its characteristics.
- 4) What do you mean by Mahalwari System? Why it proved to be curse for Indian Farmers?
- 5) Discuss the effects of British Land Revenue system on Indian peasantry.
- 6) In what ways were the indigenous industries affected by the industrial policy of the British govt.
- 7) Why the British was interested to grow commercial crops in India?
- 8) Why the farmers of India revolted against the British?
- 9) Before the interference of British what were the occupation of the tribal in India?
- 10) Why were Britishers not in favour of shifting cultivation?
- 11) What was the nature of rural life before British? In which areas British brought changes?
- 12) Why British introduced the land revenue policies and in which different policies were introduced in different areas?
- 13) Why indigo was in a great demand in Europe?
- 14) What was the objectives if BirsaMunda's Revolt?
- 15) Where did the Khasitribals lives? Why and under whose leadership they revolted against British?

Following questions carries 5 marks each:

- 1) Write down the powers enjoyed by tribal chiefs. Why they were dissatisfied with the British policies.
- 2) Who was BirsaMunda? What was the main objectives of his revolt?
- 3) How was the life of Santals of Hazaribagh influence due to British interference?
- 4) What is rebellion? How the revolt took place? Why the farmers of India revolted against the British?
- 5) How the interference of British destroyed the Indian local industries?
- 6) How did colonialism systematically destroy Indian crafts and industries?

THE FIRST WAR OF INDEPENDENCE**Following questions carries 3 marks each:**

- 1) Explain the economic causes responsible for the outbreak of Revolt of 1857.
- 2) What were the military causes responsible for the outbreak of the Revolt of 1857?
- 3) How the introduction of railways created resentment among the Indians?
- 4) Why some Indians didn't join the Revolt of 1857 against British?
- 5) "The Revolt of 1857 was only a sepoy mutiny". Do you agree with the view, if not Justify?
- 6) Why the emerging middle class did not supported the rebels?
- 7) How were artisans affected by the coming of the British?
- 8) How were the rulers affected by the introduction of Doctrine of Lapse?
- 9) What was the immediate cause of the revolt?
- 10) List the leaders of which areas didn't join the revolt.
- 11) Write down the importance of the Act of 1858.

Following questions carries 5 marks each:

- 1) Economic exploitation of the people of India led to the Revolt of 1857. Explain
- 2) The dissatisfaction among the Indian soldiers led to the path for the 1857 revolt. Justify
- 3) How did the British hurt the sentiments of the people?
- 4) State how British able to suppress the revolt?
- 5) List any five causes of the failure of the revolt
- 6) What changes were brought by the crown after the Revolt of 1857

UNIT-III RULE OF LAW AND SOCIAL JUSTICE**ROLE OF THE CONSTITUTION****Following questions carries 3 marks each:**

- 1) Why we need a constitution?
- 2) State the amendments that helped in achieve national goals or to eradicate certain evil practices.

- 3) The constitution of India is the result of serious deliberation of a representative body.
Explain the meaning of the statement
- 4) Explain the key features of the preamble.
- 5) What is federalism? How does it work in India?
- 6) Write down the importance of right to Constitutional remedies.
- 7) Why are fundamental duties important?
- 8) The Directive Principles of State Policy is an important part of the constitution. Justify.
- 9) What are the provisions for the Right against Exploitation?
- 10) Which form of government is in practice both at the centre and in the state?
- 11) Justify why Fundamental Rights guaranteed to the citizens of India are not absolute or unlimited.
- 12) Why the judicial system of India is considered as Single Integrated Judicial system?
- 13) The Amendment of the constitution going through several procedures, state in brief the procedures.

Following questions carries 5 marks each:

- 1) Explain briefly any five salient features of Indian constitution.
- 2) Write down the importance of Constitution.
- 3) Why Right to Freedom is known as Cluster of all rights? Justify
- 4) List any five Fundamental Duties given in the Constitution.
- 5) Explain the term which makes India as Sovereign, Secular, Socialist , Democratic and Republic?
- 6) Write down the importance of Directive Principles of State Policy.
- 7) India is a federation with a very strong Central Government. Justify the statement.
- 8) Why Fundamental Rights are important for the Citizens of a country?

INDIAN SECULARISM

Following questions carries 3 marks each:

1. What do you mean by secularism?
2. What are the benefits of a secular state?
3. What is Indian secularism?
4. What are the objectives of Indian secularism?
5. What are the basic features of a secular state?
6. How secularism is practiced in India?
7. When the state intervene in the religious matters of India?
8. Is it possible in India to make religious education compulsory? If 'yes' then up to what extent?
9. Besides the Article 25-28 of the Indian Constitution in which other aspects India reflects its concern for secularism?

10. Briefly explain the different aspects of Indian Secularism.
11. When and in which Amendment the term secular added in Indian Constitution and state the purpose behind it?
12. State how Indian secularism is different from U.S.A?

THE UNION GOVERNMENT

Following questions carries 3 marks each:

1. What is a federal form of government? Why India adopted such a system?
2. Explain with Example the grass root level administrative pattern of India.
3. Explain the division of legislative powers between the Union government and the State Government
4. State the composition of the Union Government.
5. What do you mean by Union List and mention the subjects coming under it?
6. What is State List? Which subjects are falls under it? Who is having power to prepare law for the list?
7. How many subjects included in Concurrent List? Who can prepare law for the list?
8. What do you mean by residuary subjects? Which subjects are included in this list?

Following questions carries 5 marks each:

1. State the federal division of Indian administration.
2. Why there are different subjects made under three lists? Briefly explain the lists.
3. Residuary subject is different from other three subjects, explain.

THE UNION LEGISLATURE

Following questions carries 3 marks each:

1. State the composition of Indian Parliament.
2. State the composition and tenure of Lower house of Indian Parliament.
3. What is Universal Adult Franchise? How it is playing an important role in running of Parliament?
4. What is the purpose behind the reservation of seats in elections?
5. State the tenure of Lok Sabha.
6. state the composition of Rajya Sab in Indian Parliament.
7. What are the qualification to become a member of Rajya Sabha?
8. Mention three Legislative powers of Parliament.
9. The council of Ministers are collectively responsible in their function in Parliament.
Justify
10. Mention the power of Parliament In amendment of Constitution.
11. State three financial powers of Indian Parliament.
12. What are the Judicial powers of Indian Parliament?

Following questions carries 5 marks each:

1. Mention the qualifications for a member of Lok Sabha
2. Who is a speaker? Mention his powers and functions.
3. Who is the Presiding officer of Rajya Sabha ? State his function in Rajya Sabha.
4. How power is different from the Lok Sabha Speaker?
5. Which house is more powerful in financial matters in Parliament and why?

GEOGRAPHY**CHAPTER--1****3 MARK QUESTIONS**

1. What are the gifts of nature ?
2. What is a resource ?
3. What does the potential resource refer to ?
4. What are the four types of values associated with resources ?
5. What is sedentary agriculture ?
6. What do you mean by a reserve ?
7. Define renewable or Replenishable Resources. Name any five.
8. What does the term non- renewable resource refer to ?
9. Which is the most important natural resource available to man ?
10. Name the three categories of resources ?
11. What is meant by human- made resources ?
12. Give two examples of human-made resources ?
13. Mention the resources which get used up with the passage of time ?
14. What is included in the biotic resource ?
15. What causes the degradation or depletion of many valuable resources ?
16. What do you mean by economic development ?
17. How can gift of nature become a resource ?

5 MARK QUESTIONS

18. Give some important characteristics of resources ?
19. Classify resources on the basis of their continued availability.
20. Classify resources on the basis of their stage of development.
21. What is the importance of biotic resources to human beings ?
22. Give four examples of non- conventional resources of energy .Way are they important?
23. What are cyclic resources ?What is the advantage of using them ?
24. State how biotic resources may be conserved.
25. What are the factors which determine the utility of resources ?
26. Which resources are used to provide food ,clothing, shelter and power ?

27. What is the basis for classification of resources as biotic and a biotic ? Give five examples of each.
28. What are human resources ? How can we make them useful ?
29. Man consumes a number of articles in their natural state. Give five examples.
30. Why is land an important resources for human kind ?
31. How does technology help in the development of resources ?
32. Why consumption of resources higher in developed nations than in developing nation?
33. Distinguish between natural and human resources.
34. Distinguish between potential and actual resources.
35. Distinguish between renewable and non-renewable resources.
36. Differentiate between resources and reserves.
37. How do human-made resources gain importance now a day ?
38. On what different basls have the resources been classified ? explain the categories briefly.
39. What is meant by conservation of resources ? Suggest measures to conserve the resources.
40. What is the importance of energy resources in human life ? Discuss the present day energy crisis in world specifying the oil crisis.

CHAPTER--2

3 MARK QUESTIONS

1. Why are natural resources important ?
2. What are the different uses of land ?
3. What factors control the utilization of land ?
4. State the effect of improper use of land .
5. Name three factors influencing the land use pattern.
6. What factors control the cultivation of land in India ?
7. Why is land considered an important resources ?
8. What is meant by conservation ?
9. Name the five factors controlling soil formation.
10. What is humus and why is it useful for soil ?
11. List three factors responsible for soil erosion.
12. In what way the fertility of the soil is restored ?
13. In what way can we check soil erosion from wind action in a dry region ?
14. What are the main sources of water for man ?
15. How do we get fresh water ?
16. How can the seasonal contrast in the volume of water in rivers be regulated ?
17. Which two major resources are obtained from oceans ?

18. Why is irrigation essential for agriculture in India ?
19. Give some uses of water.
20. What do you mean by hydropower project ?
21. What do you mean by land use ? State five ways in which land can be used.
22. Why is soil considered a primary resource ?
23. Why does soil lose fertility ?
24. How can soil be conserved ?
25. How does the soil get organic and inorganic matter ?
26. Why is the earth called a blue planet ?
27. What is the meaning of recycling of water ?
28. Why does the production of hydroelectricity vary from year to year in India ?
29. State the problems of underground water.
30. Suggest some measures to conserve water.

5 MARK QUESTIONS

31. Discuss the ways or means which are important for environmental balance.
32. Write a note on distribution of land resource in India.
33. Write a note on the land utilization in India.
34. What is the importance of soil ? State the factors that govern the formation of soil ?
35. Explain the various layers of the soil profile with the help of diagram.
36. Why is the distribution of water resource uneven in the world ? What are the problems or reasons for water pollution ?
37. Write a note on the phenomenon of hydrological cycle ?

CHAPTER--3

3 MARK QUESTIONS

1. Name the different types of vegetation found in the world.
2. Give Reason :
 - a) Why deciduous forest shed their leaves in dry season?
 - b) Why the leaves of Mediterranean forest have waxy leaves ?
 - c) Tropical evergreen forest have broad leaves.
 - d) Coniferous forest have conical shaped trees.
3. What are the different uses of trees of coniferous forest?
4. What is meant by wildlife ?
5. Name two factors that influence plant growth.
6. What are the uses of forests to human kind ?
7. What are the main uses of grasslands ?

5 MARK QUESTIONS

8. What has caused the large scale clearance of forests in the world ?

- 9.How are animals useful to man ?
- 10.What are the consequences of deforestation ?
- 11.What are the advantages of forest resources ?
- 12.Give the characteristic features of temperate deciduous forests.
- 13.Give some local names of the temperate grasslands .
- 14.Give the features of the tropical evergreen forests
- 15.State the steps taken by govt. to conserve forest and wildlife.

CHAPTER--4

3 MARK QUESTIONS

- 1.What is meant by agriculture ?
- 2.What is green revolution ?
- 3.Name the three types of agriculture.
- 4.Define sedentary agriculture.
- 5.What is commercial farming ?
- 6.Why is agriculture an important occupation in the world ?
- 7.Mention the basic necessities provided by agriculture.
- 8.What is truck farming ?
- 9.What are the different names by which shifting cultivation is known ?
- 10.In which countries cooperative farming is successful ?
- 11.What is the name given to cultivation of fruits and flower ?In which regions of India is it practiced?
- 12.List three major fibre crops grown in the world.
- 13What are perennial crops ?
- 14Define growing season.
- 15.Name the different pulses. Why pulses are important ?
- 16.what are the chief oilseeds ?
- 17.Why is wheat the staplefood in temperate land ?
- 18Why is sericulture dependent on cheap skilled labour ?
- 19.Name three major rice producing countries.
- 20.Which parts of India are the main producers of rubber ?
- 21Name the largest producers of rubber in the world.
- 22.Which country is the leading producer of cotton ?
- 23Cotton crop grows well in the region of black soil . Why ?
- 24.What types of wheat are grown in united states of America ?
- 25.Indicate the chief areas of rice cultivation in India .
- 26.How is the yield per hectare increased through Intensive Agriculture ?
- 27.Name three factors that helped agriculture in 20th century.

28. List three major fibre crops grown in the world.
29. Why are lowlands more suitable than highlands for farming ?
30. Why does extensive agriculture need machines for farming work.
31. What are the three types of traditional agricultural practices ?
32. List the major food crops and commercial crops.
33. Why is intensive agriculture more popular in thickly populated areas ?

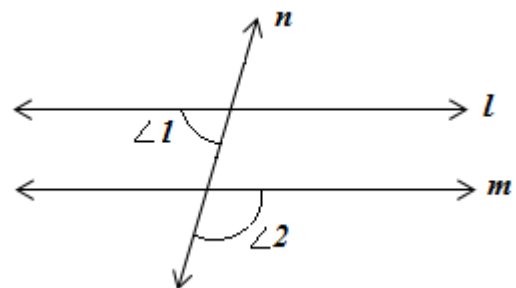
**SAMPLE PAPER
MATHEMATICS**

General Instructions:

- The Question Paper consists of four sections- A, B, C and D. Section A consists of 8 questions of one mark each; section B consists of 2 marks each. Section C questions consists of 10 questions of 3 marks each and Section-D consists of 4 marks each. Question No. 1 to 8 are multiple choice questions where you are to select only one correct option out of four given options.
- All Questions are Compulsory.
- In Questions on construction, the drawing should be neat and exactly as per the given measurements. Use ruler and compass only
- There is no overall choice however internal choice have been given in some questions.

Section –A (One mark each)

- How many natural numbers lie between 25^2 and 26^2 ?
a. 51 b. 52 c. 50 d. 49
- If M.P. = Rs.650/- and Discount = 10% then S.P. is :-
a. Rs. 640/- b. Rs.550/- c. Rs. 560/- d. Rs. 585/-
- Kamal bought a wrist watch for Rs.2200/- and sold it for Rs. 1980/-. His loss percent is :-
a. 10% b. 20% c. 11% d. 15%
- Which of the following identity is correct?
a. $(x+a)(x+b) = x^2 - (a+b)x + ab$ b. $(x-a)(x+b) = x^2 + (a+b)x + ab$
c. $(x-a)(x-b) = x^2 - (a+b)x - ab$ d. $(x+a)(x+b) = x^2 + (a+b)x + ab$
- In the given figure, $l \parallel m$ and n is a transversal. If $\angle 1 = 70^\circ$ then the measure of $\angle 2$ is :
a. 70° b. 110° c. 90° d. 120°



- If the Y- Co-ordinate of a point is zero, it lies on
a. X-axis b. y- axis c. a line passing through the origin d. data insufficient
- Distance of point (3,2) from x-axis is :-
a. 2 units b. -1 unit c. 3 units d. 1 unit

8. Among the quantity of fruits sold in one day, sale of Mangoes is 25%. The angle of sector representing Mangoes in the pie chart is
- a. 50° b. 90° c. 360° d. 180°

Section-B(2 marks each)

9. Find the square root of 11025 by prime factorization method.

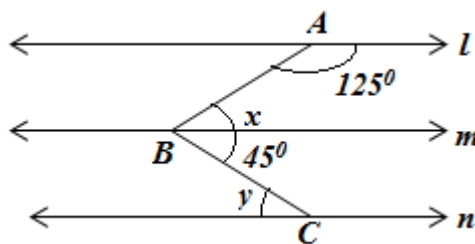
Or

Find the value of $\frac{\sqrt{243}}{\sqrt{867}}$, using prime factorization method.

10. Find the cube root of -17576.

11. Evaluate : $\sqrt[3]{100} \times \sqrt[3]{270}$

12. In the given figure, if $l \parallel m \parallel n$, find the measure of $\angle x$ and $\angle y$



13. Plot the points (0,1), (2,2) and (4,3) on the graph. Join these points in pairs. Do they all lie on the line passing through the origin?
14. A bag contains 5 red balls, 8 white balls, 4 green balls and 7 black balls. If one ball is drawn at random, find the probability that it is :
- a. Black ball b. red ball c. not a green ball

Section-C (3 marks each)

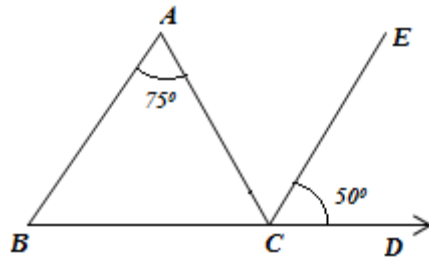
15. Find the least number of six digits which is a perfect square. Also find the square root of this number.
16. Find the square root of 147.1369
17. What is the smallest number by which 3087 may be multiplied so that the product is a perfect cube?
18. Evaluate : $\sqrt[3]{(-1728) \times (-2197)}$
19. A car travels 60 Km in 1 hr 30 min. How long will it take to cover a distance of 100 Km at the same speed?

Or

Raja can finish his work in 25 days, working 8 hours a day. If he wants to finish the same work in 20 days, how many hours should he work in a day?

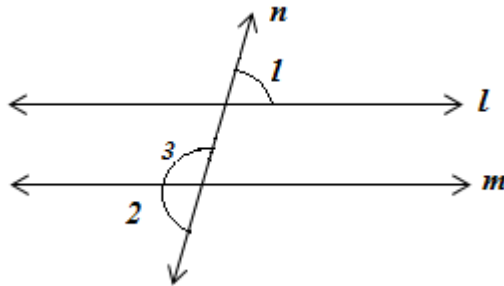
20. Ramesh sold two jeans for Rs. 990/- each. On one he gains 10% and on the other he loses 10%. Find his gain or loss percent in the whole transaction.
21. Factorise: $p^2 - pq - 12q^2$

22. In the figure, $\angle A = 75^\circ$ and $CE \parallel AB$. If $\angle ECD = 50^\circ$, find the other two angles of the triangle ABC.



OR

- In the given figure. If $\angle 1 = (5x + 25)^\circ$ and $\angle 2 = (15x - 35)^\circ$, then find the value of x and hence find the measure of $\angle 3$.



23. A bus is going on a long journey starting at 4:00 hour. The speed of the bus at different hours is given below:

Time (in hrs.)	4: 00	6:00	8:00	10:00	12:00	14:00
Speed (in Km/hr)	30	50	60	45	80	70

Draw speed – time graph for the above data.

24. The pulse rate (per minute) of 30 persons is recorded as

61 76 72 73 71 66 78 73 68 81
 78 63 72 75 80 68 75 62 71 81
 73 60 79 72 73 74 71 64 76 71

Construct a frequency table using class intervals 60-65, 65-70 etc.

- What is the upper limit of third class interval?
- What are the class marks of each class interval?
- Which class interval has the highest frequency?

Or

A card is drawn at random from a pack of 52 cards. Find the probability that the card drawn is:

- A black king
- a red card
- neither a red card nor a queen
- a heart
- other than an ace
- a jack

Section-D (4 marks each)

25. Find the square root of $10\frac{2}{3}$ correct to three place of decimal.
26. A train 400 m long is running at a speed of 72 Km/hr. How much time does it take to cross a 200 m long bridge?
27. A garrison of 120 man has provision for 30 days. At the end of 5 days, 5 more men joined them. How many days can they sustain on the remaining provision.
28. The marked price of a double bed is Rs.9575/-. A shopkeeper allows a discount of 12% on its marked price and still gains 10%. Find the cost price of the double bed.
29. Geeta bought an A.C. for Rs.22000/- including a VAT of 20%. Find the price of the A.C. before VAT was added.

Or

Rohan bought some cricket ball at the rate of Rs.1000/- for 4 balls and sold them at the rate of Rs.1500/- for 5 balls. Find his gain or loss percent.

30. Factorize: $x^4 + x^2y^2 + y^4$
31. If $5x - 2y = 7$ and $xy = 2$ then find the value of $(5x+2y)^2$

Or

Factorize: $25a^2 - b^2 + 6bc - 9c^2$

32. Draw a line segment AB of length 7 cm and find a point P on it in such a way that $AP = \frac{3}{5} AB$. Measure the length of AP & PB.
33. The electricity bills (in rupees) of 25 houses of a certain locality for a month are given below:-
- | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 324 | 700 | 617 | 400 | 356 | 365 | 435 | 506 | 548 | 736 | 780 | 630 | 584 |
| | 674 | 754 | 776 | 596 | 745 | 565 | 763 | 472 | 378 | 570 | 685 | 312 |
- Prepare a frequency table taking class intervals 300-400, 400-500 etc. also draw a histogram.
34. A box contains 24 marbles of different colours. The following table shows number of marbles of these different colours. Draw a pie chart for the data.

Clolour of marbles	Red	Green	Yellow	blue
No. of marbles	10	6	5	3

SAMPLE QUESTION PAPER

Time – 3 Hours

SUBJECT- SCIENCE

F . M – 80

SECTION “A”

1. In arctic regions ,reindeers are made to pull the sledges that are used as vehicles. The force that makes the animals to pull the vehicles is – (1)
 - a) gravitational force
 - b) magnetic force
 - c) muscular force
 - d) frictional force
2. Solid sodium chloride does not conduct electricity where as molten sodium chloride conducts electricity, because – (1)
 - a) sodium chloride contains free electrons
 - b) sodium chloride produces ions on dissociation
 - c) sodium chloride dissolves partialy in water
 - d) sodium chloride becomes active but does not produce ions
3. A basic oxide will be formed by the element: (1)
 - a. Sulphur
 - b. Phosphorous
 - c. Potassium
 - d. Carbon
4. Which of the following is not obtained as a fraction during refining of petroleum? (1)
 - a. Kerosene
 - b. natural gas
 - c. Bitumen
 - d. Lubricating oil
5. How do metal oxides differ from nonmetal oxides? (1)
6. Which air pollutant combines with the haemoglobin of our blood ? (1)
7. State any 2 uses of coke. (1)
8. Define static friction . (1)
9. When the measure of the intensity of an earthquake , on the Ritche scale , goes up in magnitude ,by two, what does it imply ? (1)
10. What do you mean by epicenter of an earthquake ? (1)
11. What is balanced force ? If a force of 10 N acts on a body towards east and another force of 20 N acts on the same body towards west. Then find the net force acting on the body and find the direction in which the body will move? (2)
12. What is limiting friction ? Why is it said that - rolling friction < sliding friction ? (2)
13. Give reasons -: (2)
 - a) Distilled water does not conduct electricity .
 - b) Bath taps and kitchen gas burners are coated with chromium.
14. Give reason- : (1+1=2)
 - a. Silver being a good conductor of electricity not used formaking electric wires.
 - b. Graphite is used for making electrode in a cell.
15. What is air pollution? Write 2 main sources of air pollution? (2)
16. Write any 2 harmful effects of depletion of ozone layer on us. (2)
17. Identify the nature and the kind of the relevant force . (3)

- | Examples | Contact /non-contact force | kind of force |
|--|----------------------------|---------------|
| a) making of dough - | _____ | _____ |
| b) lifting of garbage by using crane - | _____ | _____ |
| c) glass rod rubbed with fur - | _____ | _____ |
18. How is friction caused ? On what factors force of friction depend ? (1+2 =3)
- 19.a) Can friction be entirely eliminated? Support your answer ..
- b) Write two ways to reduce friction . (1+1+1/2+1/2 =3)
20. Differentiate between strong electrolyte and weak electrolyte . Give one example of each . (2+1 =3)
21. a) How is tsunami caused ?
- b) Write two ways to prevent from earthquake. (1+2 =3)
22. State any 2 physical properties for believing that copper is a Metal? Why metals are used for making bells? (2+1=3)
23. What is global warming? What are likely the harmful effects of global warming?(2+1=3)
24. a) State Pascal's law . (1+1+3=5)
- b) Name two devices that work on Pascal's law .
- c) Write three properties of liquid pressure .
- or
- a) Define atmospheric pressure. Name the instrument used to measure atmospheric pressure .
- b) State an activity to show that air exerts pressure .
- c) Why do not we feel enormous pressure of atmosphere on our body ? (2+2 +1=5)
25. a) State Faraday's observation of electromagnetic induction.
- b) Why the artificial satellites have a long metallic chain attached to it ? (4+1 = 5)
- or
- a) How is electrolysis different from conduction of electricity through metals ?
- b) How can you give silver coating over an iron spoon ?
- c) Why do we prefer electroplating ? (any two points) (2+2+1 =5)
26. State 5 characteristics each of metal & nonmetal. (5)
- or
- Compare the chemical properties of metals & nonmetals in tabular form.
27. (a). What are fossil fuels? Name 3 fossil fuels. (2.5+2.5=5)
- (b). Describe how fossil fuels were formed.

SECTION "B"

28. The ribosomes helps in (1)
- | | |
|----------------------|----------------------|
| A. Digestion of food | C. Protein synthesis |
| B. Photosynthesis | D. Cell secretions |

29. ringworm is caused by : (1)
a. Bacteria b. Virus c. Protozoa d. fungi
30. Why mitochondria are known as “powerhouse” of cell? (1)
31. Name the turtle sanctuary famous as “breeding ground of turtles” present in Orissa.(1)
32. What do we call the replanting of tree to raise forest? (1)
a. Name the extinct bird which was an endemic species of from Mauritius [1+1]
b) What impact it has on the trees of Mauritius and why?
33. A) What is nitrogen fixation? [1+1]
b) Name the bacteria and other microorganisms which help in nitrogen fixation.
34. a) Why a little amount of curd is added to milk when we have to make curd? [1+1]
b) Name the bacteria which help in turning milk into curd.
35. A) Draw a diagram of plant cell. Label nucleus an vacuole in it. [2+1=3]
b) Give two examples of unicellular organisms.
36. A) What are two different Endoplasmic Reticulum present in cell? [1+2=3]
b) Write down at least two functions of Endoplasmic Reticulum.
37. A) Name two antibiotics obtained from bacterium “Streptomyces”. [2+2+1=5]
b) What is pasteurization? Who developed this process?
c) Name the scientist who discovered penicillin’.
38. Differentiate between [2.5+2.5=5]
a) National park and wildlife sanctuary
b) Endemic species and endangered species

SOCIAL SCIENCE**Time: 3 Hrs****SAMPLE PAPER****Maximum Marks:90****General Instruction:**

- a. There are 31 questions in all.
- b. Marks for each question are indicated against it.
- c. All questions are compulsory.
- d. Write the same question number as given in the question paper while answering a question in your answer book.
- e. (i) Answers to MCQ of 1 marks should be out of a, b, c, & d only .
(ii) Answers to questions of 3 marks should not exceed 60 words each.
(iii) Answers to questions of 5 Marks should not exceed 120 words each.
- f. Map should be attached inside the answer book.

1. What percentage of total land on Earth should be under forest cover to maintain an ecological balance in the world? 1
(a) 32% (b) 33% (c) 31% (d) 40%
2. Why are trees planted in rows in a desert region? 1
(a) To prevent flood (b) To prevent soil erosion
(c) to prevent wind erosion (d) to prevent water erosion
3. What are Tropical Rain Forests commonly known as? 1
(a) Monsoon forests (b) Evergreen Forests
(c) Coniferous forests (d) Mountain forests
4. Which of the following is a characteristics of the trees found on the Coniferous Forests?1
(a) Waxy and small leaves (b) Broad leaves
(c) Small leaves and dense (d) Conical
5. What type of source of information does the Report on district of Champaran provide? 1
(a) Administrative reports (b) letters (c) internet/ database (d) newspaper
6. Name the city which first surrendered under the policy of Susidiary Alliance. 1
(a) Meerut (b) Kanpur (c) awadh (d) Jhansi
7. Who among the following was given the title of "Empress of India" in 1858? 1
(a) Queen Elizabeth (b) Queen Annie
(c) Queen Mary (d) Queen Victoria
8. Which one of the following is not related to the 'Right to Freedom'? 1
(a) Freedom of speech and expression.
(b) Freedom to from association and unions.
(c) The followers of majority religion enjoy special status.
(d) Right to education.
9. The subject 'police' coming under which list of our Constitution? 1

(a) Union List (b) State list (c) Concurrent List (d) Residuary Subject

10. Which one of the following statements about the Rajya Sabha is not true? 1
 (a) Rajya Sabha is a permanent House. (d). It can be dissolved at any time.
 (b) Its members have a tenure of six years.
 (c) One-third of its members retire after every two years.
11. Why resource planning is essential? Mention any three points. 3
12. What is the importance of soil? Suggest any two suitable measures to conserve soil? 3
13. State any three characteristics of Coniferous forest. 3

OR

Why are Deciduous Forests known as Monsoon Forests? Name two areas where they are found. Also, mention any two typical trees found in these forests. 1+1+1

14. Why Conservation of wildlife is necessary? Highlight any two reasons for starting Project Tiger. 1+2
15. How do the following sources provide us information about our past? Explain.
 (a) News papers
 (b) Letters, Writings, speeches 1.5+1.5

16. Why did the First Anglo Maratha War occur? State its consequences. 1+2

OR

Describe any three outcomes of the Third Anglo- Mysore War. 3x1

17. Why the Tribal of India were dissatisfied with the changing economic policies the British? 3x1
18. Explain any three important features of the "Doctrine of Lapse". 3x1
19. In your opinion why Right to Constitutional Remedies is considered as the Guardian of all the Rights granted to the citizens of India? 3x1
20. Explain why do we need a constitution for our country? 3x1
21. What is meant by reserved constituencies? Mention any two reasons for setting up these constituencies. 1+2
22. Explain any three Legislative Powers of the Union Parliament of India. 3x1

OR

Explain any three main powers and functions of the Presiding Officer of the Rajya Sabha. 3x1

23. Classify the resources based on renewability. Explain them giving suitable examples. 1+4=5

OR

Mention the factors that determine the utilization of resources. How does the

utilization of resources vary between the developed and the developing nation. 3+2

24. What is land use pattern? What is the percentage of forest in India? Mention three steps to conserve the land. 1+1+3

25. What attracted the European trading companies to India? How did East India Company use its expansion policies to gain control over Indian provinces. 2+3

26. Describe the impact of the policies imposed on Indian farmer by the British? Why were the policies proved to be curse for the Indian farmers? 3+2

27. "The uprising of the First War of Independence brought many changes in India. Support the statement. 5

28. What do you mean by Constitutional Amendment? State the procedures to amend the Constitution of India. Who is having the right to amend the Constitution? 2+3

29. Explain the differences in religious policy of U.S.A. and India? In your opinion, which is better and why? 3+1+1

30. Distinguish between the Union List and State List with examples. 2.5+2.5=5

Or

In what way is the Concurrent list different from the Union List and the State List. Give any four examples of subjects included in the Concurrent list. Who Can make laws on the subjects which are not included in the three lists? 3+2=5

31. (i) Two features (A) and (B) are shown in the physical map of the world. Identify these features with the help of the following information and write their correct names on the lines marked on the map.

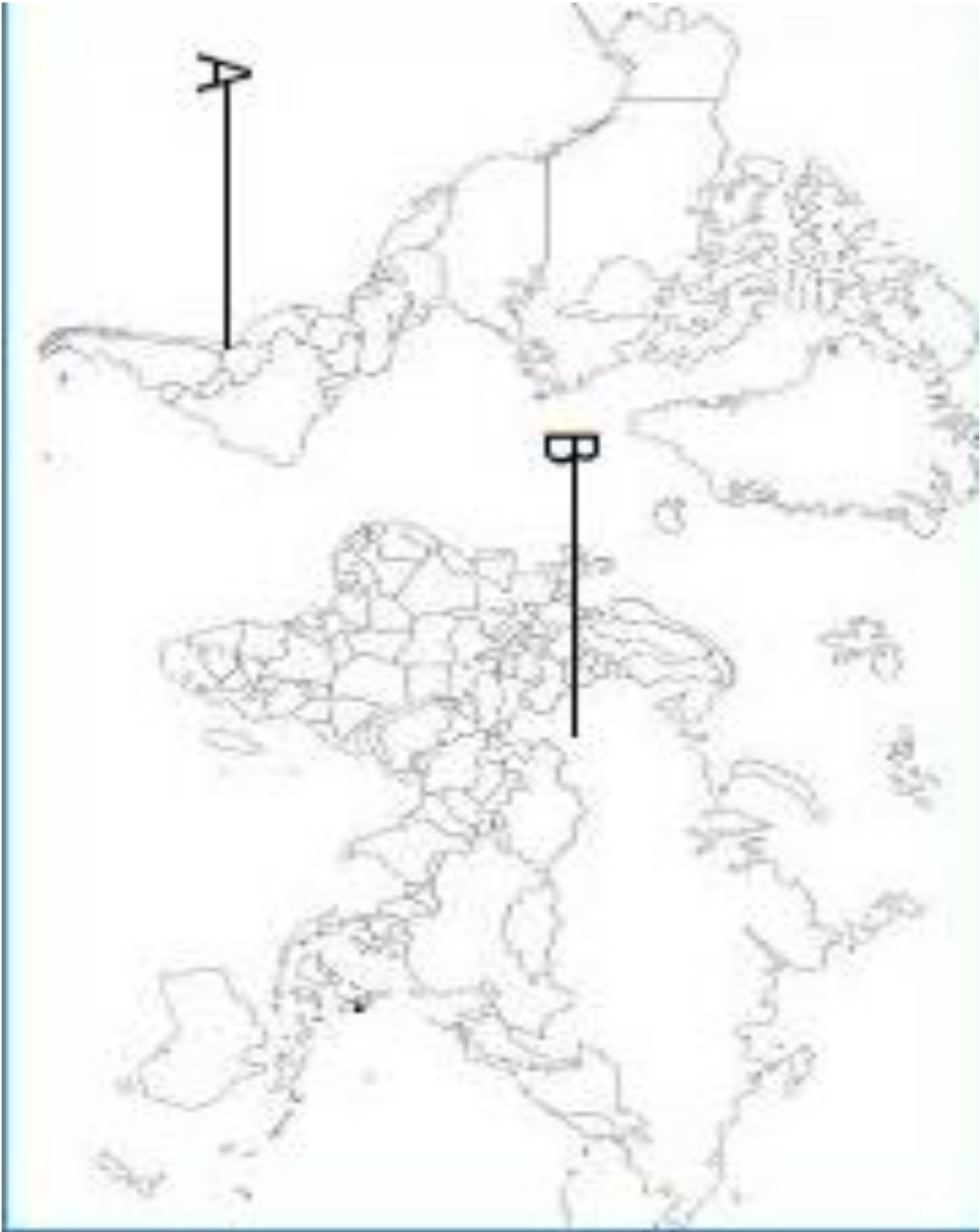
[A] Continent with high rainfall

[B] A Forest Type

(ii) On the same outline map of the world, locate and label the following items using appropriate symbols

[C] One region of low rainfall in Australia.

[D] One region of tropical Evergreen Forests in Africa. 2x2=4



SAMPLE PAPER
ENGLISH (COURSE-'A')

Time : 3 Hrs.

Maximum Marks:90

General Instructions :

1. This paper consists of 4 sections : A, B, C & D.
2. Attempt all questions.
3. Don't write anything on the question-paper.
4. All the answers must be correctly numbered as in the question-paper and written in the answer sheet provided to you.
5. Ensure that questions of each section are answered together.
6. Read each question carefully and follow the given instructions.
7. Strictly adhere to the word limit given with each question. Marks will be deducted for exceeding the word limit.

SECTION-A (READING) (20 MARKS)

1. **Read the following passage :**

DANCE YOUR WAY TO PRIME FITNESS

1. Dancing is an excellent aerobic activity which helps in toning the entire body. It works like a stress and tension reducer. For people on a hectic schedule, it can become a passion that helps you improve your attitude and increase your confidence in both social and business situations. That's what makes dance the ideal exercise! When you take dance lessons, you make exercise a fun and enjoyable social event.
2. In fact, some gyms are also giving people options of learning various dances like the Jazz dance, Tap dance or other Aerobics. The latest dance craze all over the world is the flamenco. What makes flamenco so appealing, apart from its sensuous movements, is that it's a solo dance. Hence you don't need a partner. And its extravagant arm movements make it a very good exercise.
3. Energetic dance forms raise your heart rate to somewhere between 60 percent and 80 percent of your maximum, which has definite benefits for your aerobic fitness.
4. Doing dance over a prolonged period helps to develop muscle tone, especially in the abdominal area and the legs. It helps in boosting personal confidence. Olympic athletes often include dance in their training to sharpen their control, agility, speed and balance.
5. Dancing helps you in attaining good posture and body alignment. It makes your body more flexible and also helps in increasing your stamina. As an aerobic exercise, dance benefits your cardiovascular system as you swing and sway from hips to shoulders.
6. However, the best part is that since you are having so much fun, you hardly notice the sweat.

7. Ever since the International Olympic Committee gave ballroom dancing provisional recognition, it has been getting a lot of attention as a true athletic activity. Many people also turn to dancing either because of injuries or sheer boredom. Ballroom dance is a low impact activity. This makes it accessible to people of any age or fitness level.

8. So what are you waiting for? Get set and go

1.1. **On the basis of your reading of the above passage, complete the following statements :** **6x1=6**

(a) Dancing is an excellent aerobic activity which

_____.

(b) When you take dance lessons, you _____
and enjoyable social event.

(c) Olympic athletes include dance in their training schedule to

_____.

(d) Two benefits of dance are -

(i) _____.

(ii) _____.

1.2. **Find words from the passage which mean the same as the following:** **2x½=1**

(a) Promoting (para 4) _____

(b) Exceeding what is reasonable (para 2) _____

1.3. **Find the antonyms of the following words from the passage :** **2x½=1**

(a) stiff (para 5) _____

(b) minimum (para 3) _____

2. **Read the following poem carefully :** **6**

ABOU BEN ADHEM

Abou Ben Adhem (may his tribe increase!)
Awoke one night from a deep dream of peace,
And saw within the moonlight in his room,
Making it rich, and like a lily in bloom,
An angel writing in a book of gold;
Exceeding peace had made Ben Adhem bold,
And to the presence in the room he said,
"What writest thou?" The vision raised its head,
And with a look made of all sweet accord,
Answered, "The names of those who love the Lord".
"And is mine one?" said Abou "Nay, not so",
Replied the angel. Abou spoke more low,
But cheerful still; and said, I pray thee then,

Write me as one that loves his fellow men.

The angel wrote and vanished.

The next night

It came again with a great wakening light,

And showed the names whom love of

God had blest,

And lo! Ben Adhem's name led all the rest.

Fill in the blanks with one word only to complete the following summary of the poem. Write the answers in your answer sheet against the correct blank number : $12 \times \frac{1}{2} = 6$

One night Abou Ben Adhem (a) _____ up from his peaceful dream and an (b) _____ who was writing something in a book of (c) _____. Abou went up to him and asked what he was writing. The stranger gave him a (d) _____ look and answered that he was writing the names of those people who (e) _____ God. Abou asked him curiously if his name was also there in the list. But the angel replied in (b) _____. Abou felt sad for sometime but then he told the angel to write his name in the list of those people who loved their (g) _____. The angel wrote something and (h) _____. The next night, the angel visited Abou again with a great wakening (i) _____ and showed him the (j) _____ of these who had been (k) _____ by God. Abou was surprised to see that his name was on the (l) _____ of the list as he loved everyone.

3. Read the following passage :

FEATHERED WATCHMAN

1. Black Drongo is a very common breeding resident of Haryana, found in open areas, wetlands and near cultivation. This is a glossy black bird with a long deeply forked tail. These birds are quite agile in flight.

2. Drongos are renowned for their courage. A drongo will never allow any bird that eats eggs or hatchlings, to come near its nest. It fearlessly attacks birds bigger than itself; such as crows, hawks and even eagles if they dare come into its territory. Less aggressive birds like the oriole feel safe if they have a drongo as a neighbour. So one can often find an oriole's nest in close proximity to that of a drongo's.

3. In some parts of India, the black drongo is known as Kotwal, watchman for this reason.

4. One species, the racket tailed drongo, has two spatula shaped 'streamers' in its tail. It is larger than the black drongo and has a prominent tuft of feathers on its forehead, swept back Elvis presley style.

5. The racket tailed drongo has a melodious voice and is an excellent mimic.

6. Drongos feed on insects and flower nectar.

3.1. On the basis of your reading of the above passage, write the correct option in your answer sheets against the correct answer number. $6 \times 1 = 6$

(a) Black Drongo is a very common breeding resident of _____

(i) Punjab (ii) Uttar Pradesh (iii) Haryana (iv) Sikkim.

(b) Drongos are famous for their _____

(i) agility (ii) courage (iii) sharp eyes (iv) forked tail.

(c) Which bird feels safe in the neighbourhood of Drongo?

(i) Oriole (ii) Eagle (iii) Hawk (iv) Pigeon

(d) The racket-tailed drongo is _____

(i) smaller than the black drongo (ii) heavier than the black drongo

(iii) larger than the black drongo (iv) more courageous than the black drongo.

(e) The main food of Drongos is _____

(i) worms and flowers (ii) peanuts and insects

(iii) flower nectar and insects (iv) insects and bajra.

(f) Two main features of the racket-tailed drongo are -

- (i) melodious voice & excellent mimicry (ii) harsh voice and excellent mimicry
 (iii) melodious voice and poor mimicry (iv) unpleasant voice and poor mimicry.

SECTION-B (WRITING) (20 MARKS)

4. You are Anmol/ Anamika, the sports captain of Vishwas Public School, Shimla. You had a meeting with the Principal and sports teachers in which the date for the Annual sports Day was decided. Draft a notice in not more than 50 words informing the students of classes V to XII about the date and inviting the names of the interested participants along with the names of events they want to take part in. Put the notice in a box. 4
5. You are Somya / Somesh. You feel quite disturbed to see the modern youngsters going away from age old traditions and forgetting the basic moral values. You decide to deliver a speech in the morning assembly of your school highlighting your views on 'Tradition against Modernity'. Taking ideas from the unit 'Changing Times, and using your own ideas, write the speech in about 100-150 words. 8
6. You are Parth / Tanvi living at 79, Sec.-9, Karnal. You visited New Delhi along with your friends to watch the Independence Day celebrations at Red Fort. After coming back, you decided to write a letter to your cousin Nishtha / Raghav sharing your excitement and describing all that you saw there. Write the letter in about 100-150 words. 8

SECTION-C (GRAMMAR) (15 MARKS)

7. Use the notes given below to complete the following summary. Write your answers in your answer sheet against the correct blank number. $6 \times \frac{1}{2} = 3$
- Orissa _____ land of Oriyas _____ known as Kalinga in ancient days
 _____ situated in north-eastern part of Indian peninsula _____ had many rulers
 _____ British took over in 1803 _____ declared separate province in 1936
 _____ princely states merged in 1949 _____ famous as land of Lord Jagannath.
 Orissa, the land of Oriyas, (a) _____ as Kalinga in ancient days. It (b)
 _____ in the north-eastern part of the Indian peninsula. It was ruled by various
 rulers before the British (c) _____ in 1803. Orissa (d)
 _____ a separate province on April 1, 1936. After Independence, the princely
 states of Orissa (e) _____ with the state of Orissa in January 1949. Although
 the state of Orissa had many ancient names like Utkal, Udra and Kalinga, it (f) _____
 as the land of Lord Jagannath.
8. In the following paragraph, one word has been omitted in each line. Write the missing word with the words that come before and after it.
 Underline the word that forms your answer. The first one has been done for you as an example. 3

	Word that comes before	Missing word	Word that comes after
Perhaps you're office worker. e.g. or a driver, a computer operator, or student	you're	an	office
you're a person spends a good portion of each day sitting. So why does back ache?	(a) _____ (b) _____		
The fact is most back troubles are caused by poor posture weak muscles.	(c) _____ (d) _____		
You take care of your back and keep it fit by using good posture.	(e) _____ (f) _____		

9. Rearrange the following jumbled words/phrases to make meaningful sentences. The first one has been done for you as an example. 3
- motivate / tips / are / a few / here / yourself / to

e.g. – Here are a few tips to motivate yourself.

- (a) proper / day / with / start / your / planning.
- (b) new / as / come along / they / tricks / learn /
- (c) the / courage / right decision / moral / have / to take/

10. Complete the following paragraph by choosing the correct option given in the brackets : 3

The novel, *The Adventures of Tom Sawyer* by Mark Twain is (a) _____ (of, about, for, around) a boy around the age of ten to thirteen years (b) _____ (old, older, odest, elder) named Tom Sawyer. Tom is a very daring kid more or less to (c) _____ (her, his, its, yours) own good. Tom has a friend, Huckleberry Finn who is (d) _____ (banned, ban, banning, to ban) from entering the town. Tom is forbidden to speak to him (e) _____ (and, but, so, or) does so anyway, being the daredevil that he (f) _____ (is, was, has, had).

11. Read the following instructions and complete the process by selecting the most appropriate answer from the options given below : 3

HOW TO MAKE TEA

- Take half or quarter cup of milk.
- Add water to fill the cup.
- Pour it into a saucepan.
- Put a half teaspoon of tea leaves and a half teaspoon of sugar into it.
- Bring the mixture to a boil.
- Allow it to simmer till it is light brown in colour
- Strain and pour the tea into a cup.

First of all, half or quarter cup of milk (a) _____. Water (b) _____ to fill the cup. It (c) _____ into a saucepan. A half teaspoon of tea leaves and a half teaspoon of sugar is put into it. Then the mixture (d) _____ to a boil. It (e) _____ to simmer till it is light brown in colour. Finally the tea (f) _____ and poured into a cup.

- | | | |
|-----|-------------------|-----------------|
| (a) | (i) is taken | (ii) was taken |
| | (iii) taken | (iv) take |
| (b) | (i) was added | (ii) are added |
| | (iii) is added | (iv) added |
| (c) | (i) is poured | (ii) are poured |
| | (iii) poured | (iv) pour |
| (d) | (i) brought | (ii) is brought |
| | (iii) was brought | (iv) bring |
| (e) | (i) was allowed | (ii) allowed |
| | (iii) are allowed | (iv) is allowed |
| (f) | (i) was strained | (ii) strained |
| | (iii) is strained | (iv) strain |

SECTION-D (LITERATURE) (25 MARKS)

12. Read the extract given below and answer the questions that follow. Write the correct option in your answer sheets. 4

'I strongly recommend a quiet week in bed'.
We sighed with relief and tucked her up well.
Poor Granny! For her it was like a brief season in hell.

- (a) Whom does 'I' refer to in the above lines?
 - (i) Poet (ii) Poet's father
 - (iii) Doctor (iv) Poet's friend
- (b) Why did 'I' recommend a quiet week in bed for the Grandmother?
 - (i) Because Granny had got her leg fractured.
 - (ii) she had got high fever / temperature.
 - (iii) she had hurt herself while getting down the tree.
 - (iv) she had fallen down badly.
- (c) What was like a brief season in hell for the Grandmother?
 - (i) staying up in bed for one week
 - (ii) not going for a walk in the evening

- (iii) keeping away from her family members
- (iv) being trapped in a tree for a long time.
- (d) Name the poetic device used in the last line of the stanza.
 - (i) Personification (ii) Simile
 - (iii) Metaphor (iv) Alliteration

13. Read the extract given below and answer the questions that follow. Write the correct option in your answer sheets. 4

My Mother!

You come to me like heaven's caring arms,
I remember the war days when life was challenge and toil –
Miles to walk hours before sunrise.

- (a) Who are 'you' and 'me' in the above lines?
 - (i) Poet's mother; poet (ii) Poet; poet's mother
 - (iii) Poet; poet's grandmother (iv) Poet's mother; poet's brother
- (b) What does 'war days' refer to here?
 - (i) I world war (ii) II world war
 - (iii) War between India and Pakistan (iv) War between India and China
- (c) Why did the poet have to walk so much early in the morning?
 - (i) to learn Arabic
 - (ii) to take lessons from the saintly teacher
 - (iii) to bring milk from the market
 - (iv) both (i) and (ii)
- (d) Name the poem and the poet.
 - (i) 'My Mother' by A.P.J. Abdul Kalam
 - (ii) 'My Mother' by Ruskin Bond
 - (iii) 'My Mother' by Joseph Rudyard Kipling
 - (iv) 'My Mother' by Alexander Pope

14. Answer any four of the following questions. (30-40 words)

- (a) Why did the hermit not answer the king's questions immediately?
- (b) Why had Margie started hating her school more than ever?
- (c) On his way to the school, why did Swami feel that he was the worst perjurer on earth?
- (d) What idea do you get about the children who are singing "The Children's Song"?
- (e) At what age did the grandmother learn climbing trees? Who taught her the art of climbing?

15. 'What a waste!' What is Tommy referring to as a waste? Do you think it is really a waste? (40-50 words)

16. You are Samuel. You felt quite surprised at Swami's strange14. Answer any four of the following questions. (30-40