Time : 03 hrs.   MM = 80
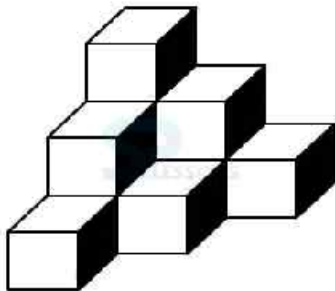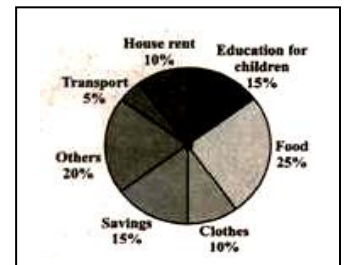
General Instructions:-

- **All questions are compulsory.**
- **The question paper is divided into four sections A , B , C and D. Section A comprises of 20 questions of one mark each, section B comprises of 6 questions of two marks each , section C comprises of 8 question of three marks each and section D comprises of 6 questions of four marks each.**

_____

<u>**Section A (1 X 20 = 20 mark)**</u>

1. Write the number of vertices and edges in a Cuboidal room.
2. An item marked at Rs. 840 is sold for Rs 714. What is the discount?
3. Factorise: $p^2 + 6p - 16$
4. The area of a rectangle is 40 cm^2. If the length of rectangle is 8cm find its breadth?
5. 3 is subtracted from a number to get 10. What is the number?
6. If the division N ÷ 5 leaves a remainder 4, what might be the one's digit of N?
7. Write the ordinate and abscissa of the point (-3, 5)
8. Can a polyhedron have 10 faces, 20 edges and 15 vertices?
9. It is given that a box of electric bulbs contains 14 defective bulbs. One bulb is taken out at random from this box. What is probability that it is a non-defective bulb?
10. How many number of cubes are there in the given shape

11. What should be added to twice the rational number $\frac{-7}{3}$ to get $\frac{3}{7}$?
12. Length of side is in Inverse proportion to the area of a square.(True or False)
13. In the adjoining pie chart gives the expenditure (in %)
    on various items and savings of a family during a month.
    If the monthly income of a family is Rs. 30000, What is the
    monthly expenditure on clothes?

14. Sum of two consecutive number is 101.Find the numbers?
15. Find the value of 2^{-3} x $(-7)^{-3}$
16. If 31β5 is a multiple of 3, where β is a digit. What might be the value of β.
17. The weekly wages(in Rs) of 30 workers in a factory are:
    830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 845, 804, 808, 812, 840, 885, 835, 836, 878, 840, 868, 890, 806, 840.
    How many workers earn less than Rs, 850?
18. A bag has 5 white balls and 4 black balls. A ball is drawn at random from the bag. What is probability of getting a white ball?
19. $\frac{x}{3}$ = $\frac{8}{15}$, Find the value of x?
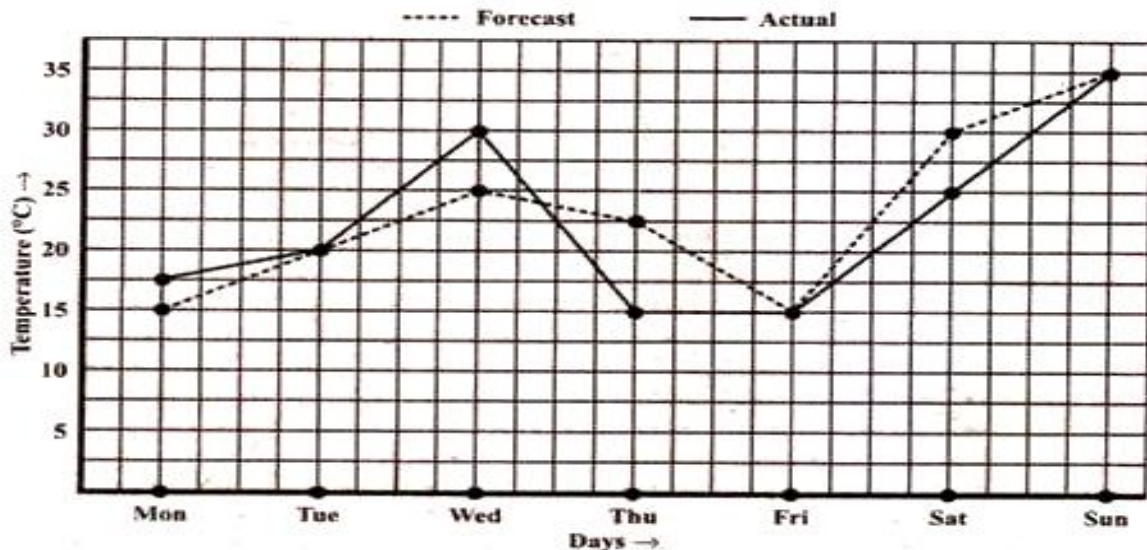20. Express 3 x 10^8 in usual from.

Section B (2X6= 12 marks)

21. Solve: $\dfrac{7y+4}{y+2} = \dfrac{4}{3}$

22. A polyhedron has 7 faces and 10 vertices. How many edges does the polyhedron have?

23. If the weight of 20 sheets of thick paper is 40 grams, how many sheets of the same paper would weigh 2 Kilograms?

24. Find value of x for which $3^{2x-1} \div 3 = 81$

25. Multiply by using suitable identity: 95 x 103

26. find the digits A and B:

```
      B  8
   +  B  3
   _____
      A 9  A
```

Section C (3 X 8 = 24 marks)

27. The floor of a building consists of 1475 tiles which are rhombus shaped and each of its diagonals are 80 cm and 45 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is Rs. 5

28. Construct a quadrilateral MORE where MO = 6 cm, OR= 4.5 cm, $\angle M = 60^0$, $\angle O = 105^0$ and $\angle R = 105^0$.

29. A shopkeeper buys 80 articles for Rs 2400 and sells them for a profit of 16%. Find the selling price. of one article.

30. Simplify and evaluate when y = −2 :   3y (2y −7) − 3 (y − 4) − 63

OR

Simplify: (a + b) (c − d) + (a−b)(c + d) + 2(ac + bd)

31. The following graph shows the temperature forecast and the actual temperature for each day of the week. Study the graph and answer the following

(i)   On which days was the forecast temperature the same as the actual temperature?

(ii)   What was the minimum actual temperature during the week?

(iii)   On which day did the actual temperature differ the most from the forecast temperature?

32. There are 100 students in a hostel. Food provision for them is for 20 days. How long will these provisions last, if 25 more students join the group.

33. Simplify: $\dfrac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

34. Construct a quadrilateral TRUE where TR = 3.5cm , RU = 3 cm, UE = 4 cm , $\angle R = 75^0$ and $\angle U = 120^0$
(Write steps of construction)

OR

Construct a rhombus whose diagonals are 8 cm and 6 cm.
(Write steps of construction)

Section D (6X4= 24 marks)

35. David took a loan of Rs. 80000 from a bank. If the rate of interest is 10% per annum, Find the difference in amounts he would be paying after $1\frac{1}{2}$ years if the interest is

(i)   Compounded annually   (ii) Compounded half yearly

36. Factorise: (i) $m^2 - (m-n)^2$ (ii) $25x^2 - 4y^2 + 28\,y\,z - 49\,z^2$

37. A suitcase with measures 80cm x 48 cm x 24cm is to be covered with a tarpaulin cloth. How many metres of tarpaulin of width 96 cm is required to cover 100 such suitcase?

OR

16 cm x 22 cm rectangular sheet is rolled to form a cylinder of height 16 cm without overlapping.

Find: (i) curved surface area of the cylinder   (ii) volume of cylinder

38. Plot the following points on a graph sheet. A(4, 2) , B (-2, 2), C (−2, −3) and D(4, −3)

Join AB, BC ,CD and DA. Shade and find the area of the shape obtained.

39. Sum of digits of a two digit no is 8. When we interchange the digits it is found that the resulting new number is greater than the original number by 18. What is the two digit number?

40. The number of students in a boarding school speaking different languages is given below. Display data in pie chart.

Language	Hindi	English	Marathi	Tamil	Bengali
Number of students	120	30	40	18	32

OR

Draw the graph for the table of values with suitable scale on the axis

No. of Apple	1	2	3	4	5
Cost	5	10	15	20	25

Is the graph is linear?

****