

Attempt all questions from Section A and any four questions from Section B .

All working , including rough work , must be clearly shown and must be done on the same sheet as the rest of the answer .

Omission of essential working will result in the loss of marks.

SECTION A - 40 Marks

(Answer all questions)

Question 1

Choose the correct option from the following :

- (i) If $A = \{ \text{perfect squares between 10 and 40} \}$, then $n(A)$ is : [1]
(a) 1 (b) 3 (c) 2 (d) 4
- (ii) The number of lines of symmetry for a scalene triangle is: [1]
(a) 0 (b) 2 (c) 3 (d) infinite
- (iii) If C.P of an article is ₹500 and S.P is ₹600, then his profit % is : [1]
(a) 10% (b) 15% (c) 20% (d) 25%
- (iv) **Assertion(A)** : The class size of class interval 100 - 120 is 20. [1]
Reason (R) : The class mark is the difference of lower class limit and upper class limit.
(a) Both A and R are correct and R is the correct explanation for A.
(b) Both A and R are correct but R is not the correct explanation for A
(c) A is correct but R is incorrect.
(d) A is incorrect but R is correct.
- (v) 0.67 equals : [1]
(a) 6.7% (b) 0.67% (c) 67% (d) 0.0067%
- (vi) For which of the following, diagonals bisect each other at right angle? [1]
(a) Rectangle (b) Parallelogram (c) Rhombus (d) Trapezium
- (vii) $A = \{ a, c, d \}$ and $B = \{ c, e, f \}$, then $A \cap B$ is : [1]
(a) $\{ c \}$ (b) $\{ e \}$ (c) $\{ f \}$ (d) $\{ a \}$
- (viii) The factors of $x^2 - 25$ are : [1]
(a) $(x - 5), (x - 5)$ (b) $(x + 5), (x + 5)$
(c) $(x - 5), (x + 5)$ (d) $(x^2 - 5)$
- (ix) Which of the following pairs vary inversely with each other : [1]
(a) Speed and distance covered (b) Distance covered and taxi fare
(c) Distance travelled and time taken (d) Speed and time taken

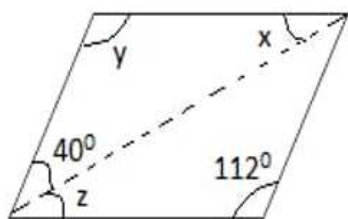
- (x) If the measure of four angles of a quadrilateral are in the ratio 1: 2: 4: 5, then the smallest angle is: [1]
 (a) 120° (b) 60° (c) 45° (d) 30°
- (xi) A quadrilateral whose opposite sides and all the angles are equal is a : [1]
 (a) rhombus (b) parallelogram (c) rectangle (d) kite
- (xii) A candle is in the shape of : [1]
 (a) cone (b) cuboid (c) cube (d) cylinder
- (xiii) Area of rhombus is equal to half of _____ of its diagonals. [1]
 (a) Product (b) Sum (c) Difference (d) Two times
- (xiv) The compound interest on ₹1000 at 10% p.a for 2 years is : [1]
 (a) ₹190 (b) ₹210 (c) ₹1210 (d) ₹200
- (xv) 80% of 200 - 50 is equal to : [1]
 (a) 30% of 200 (b) 110 (c) 80% of 150 (d) 160

Question 2

- (i) (a) Rohit bought an old scooter for ₹11500 and spent ₹1000 on its repairs. He sold it for ₹15000. Find his loss or gain percent. [6]
 (b) A wrist watch is available at a discount of 9%. If the list price of the watch is ₹1,400, Find the discount given and the selling price of the watch.
- (ii) (a) Evaluate : [4]
 $55\% \text{ of } 160 + 24\% \text{ of } 50 - 36\% \text{ of } 150$
 (b) On a rainy day, only 36 students out of 45 came to a class. What percent of students were absent ?
- (iii) Kapil invests ₹12000 for 3 years at 10% per annum compound interest in Bank of Baroda. Calculate : [3]
 (a) the compound interest for the second year.
 (b) the amount to be paid at the end of three years.

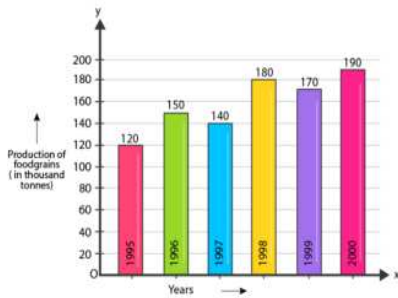
Question 3

- (i) Find x , y and z . [3]

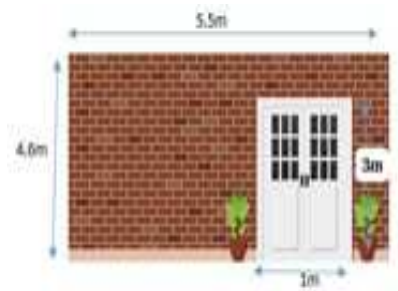


- (ii) Let $A = \{ \text{letters of the word NEW JERSEY} \}$ and $B = \{ \text{letters of the word NEWYORK} \}$, then find (a) $A \cup B$ (b) $A \cap B$ [3]

- (iii) The following data given in the graph represents the production of food grains (tonnes) for some years : [2]



- (a) In which year the production was maximum?
 (b) How much more was the production in 1998 than in 1996?
 (c) What was the total production from 1995 to 1998?
 (d) In which year there was minimum food grain production?
- (iv) A door of 3m length and 1m breadth is fitted on a wall as shown in the figure. The length of the wall is 4.6m and the breadth is 5.5m. Find the cost of whitewashing the wall, if the rate of whitewashing is ₹20 per sq.m. [4]



SECTION B - 40 Marks

(Attempt any four questions from this section.)

Question 4

- (i) Draw the following figures and indicate their lines of symmetry : [3]
 (a) Rhombus (b) Equilateral triangle
- (ii) There are 50 soldiers in an army camp. They have food provision for 15 days. How long will the food last if 10 more soldiers join the camp? [3]
- (iii) (a) Find the area of rhombus whose diagonals are 14cm and 16cm, respectively. [4]
 (b) Find the breadth of a rectangular plot, if its area is 510sq. m and length is 30m.

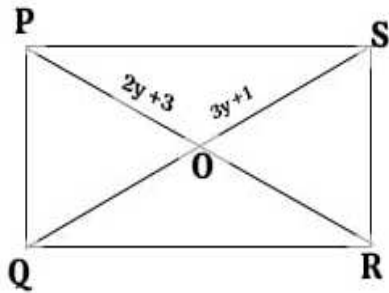
Question 5

- (i) Factorise: [6]
 (a) $ab + 3a + 3b + 9$
 (b) $64x^2 - 25$
 (c) $(x + y)(a + b) + (x - y)(a + b)$

- (ii) A man borrowed ₹7500 from a bank at 11% per annum on 30th May 2012. [4]
How much money did he give to the bank to settle the account on 11th August 2012?

Question 6

- (i) Find the cost of laying grass in a triangular field of sides 9m, 12m and 15m at the [4]
rate of ₹7 per sq.m.
- (ii) In the given rectangle PQRS, PR and QS are diagonals intersecting at O. If $OP = 2y + 3$ [3]
and $OS = 3y + 1$, find the value of y .



- (iii) A sum of ₹15000 is borrowed at a rate 15% per annum for 3 years. Find the [3]
simple interest on this sum and the amount to be paid at the end of 3 years.

Question 7

- (i) A can do a piece of work in 10 days and B in 15 days. How long will they take to [3]
finish it working together?
- (ii) A labourer is paid ₹1250 for 5 working days. How much will he get if he works for [3]
12 days?
- (iii) By selling a sofa set for ₹ 2,500, the shopkeeper loses 20%. Find his loss percent or [4]
profit percent, if he sells the same sofa set for ₹3,150.

Question 8

- (i) A fruit-seller buys oranges at 4 for ₹ 8 and sells them at 3 for ₹ 9. Find the profit [3]
percent.
- (ii) Convert the following into percentage: [3]
- (a) 0.65 (b) $\frac{3}{8}$ (c) $4\frac{1}{5}$
- (iii) The length, breadth and height of a cuboid are in the ratio 6:5:4. If its volume is [4]
 $15,000 \text{ cm}^3$, find:
- (a) its dimensions (b) its surface area

Question 9

- (i) PQRS is a parallelogram with $PQ = 49 \text{ cm}$ and $RQ = 35 \text{ cm}$. RT and PU are the [3]
heights on sides PQ and RQ, respectively. If the area of the parallelogram is 1470 sq. cm , find the lengths of PU and RT.
- (ii) The radii of two cylinders are in the ratio 2:3 and their heights are in the ratio 7:3. [4]

Find the ratio of their volumes.

- (iii) The length of a rectangle is 8cm and each of its diagonals measures 10cm. Find its breadth. [3]

Question 10

- (i) In a test, Keshav obtained 34 marks out of 50. Calculate the percentage of marks he scored. [3]
- (ii) Two hundred students of class VI and VII were asked to name their favourite colours so as to decide upon what should be the colour of their school house . The results are shown in the following table. [4]

Colour	Red	Green	Blue	Yellow	Orange
Number of students	43	19	55	49	34

Represent the given data on a bar graph.

- (iii) A circular park has a path of 3m wide along its circumference as shown below. The radius of the circle is 35m. Find the area occupied by the path. [3]

