**D.A.V. PUBLIC SCHOOL, THANE**
**SESSION: 2022 – 2023**
**PERIODIC TEST – III (SET – B)**
**SUBJECT: MATHEMATICS**

**STD: VIII** **Max Marks: 40**
**Date: 16/12/2022** **Time: 1 ½ Hrs**

**General Instructions:**

1. This question paper contains two parts A and B.

**Part – A:**

- It consists of two Sections- I and II
- Section I: Question No. 1 to 6 are Objective type questions/Very Short answer type questions of 1 mark each. Internal choice is provided in 1 question.
- Section II: Question No.7 is a Case Study Based Question. Case study has 5 case based sub-parts. An examinee is to attempt any 4 out of 5 sub-parts.

**Part – B:**

- Section III: Question No 8 to 11 are Short Answer Type - I questions of 2 marks each.
- Section IV: Question No 12 to 15 are Short Answer Type - II questions of 3 marks each.
- Section V: Question No 16 to 17 are Long Answer Type questions of 5 marks each.

2. Part A and B have internal choices.
3. Internal choice is provided in 1 question of 2 marks, 1 question of 3 marks and 1 question of 5 marks.
4. Please write the serial no. of the question as per question paper before attempting the question.
5. In question of Constructions/Graphs, the drawing should be neat, clean and exactly as per given measurements. Use ruler and compass only.

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## Part – A (Section-I)

## (Section I has 6 questions of 1 mark each. Internal choice is provided in 1 question.)

Q1. Solve for $y$: $\frac{2y+5}{y+7} = 1$

Q2. Two numbers are in the ratio 7:8. If their sum is 45, find these numbers.

Q3. Verify Euler's formula for triangular prism.

Q4. Two cubes each of side 3 cm are joined together. Find the volume of the new solid formed.

Q5. When a die is thrown, what is the probability of getting a prime number?

Q6. A survey of 320 people found that 240 of them played tennis. In a pie chart, what would be the sector angle of this group?

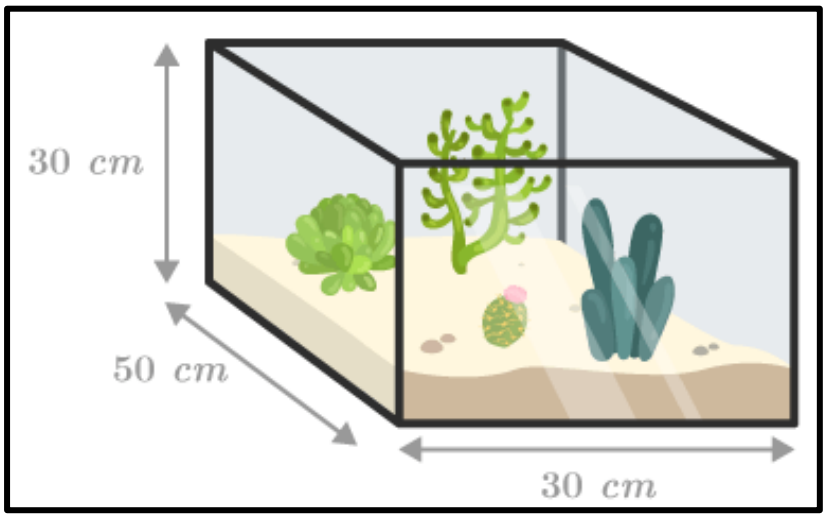
(OR)

What is the class size and class mark for the class interval 100 – 120?

## (Section-II)

**(Case study-based question is compulsory. Attempt any four sub-parts of the question. Each sub-part carries 1 mark.)**

Q7. Rohan bought a cuboidal fish tank to decorate in his drawing room. The dimensions of the tank are 50 cm, 30cm and 30 cm. He filled the tank with sand, pebbles and some aquatic plants to create a natural habitat for the fish. Rohan wants to cover the sides of the tank with colourful paper to make it more presentable. Answer the following questions.




(i) What is the volume of the fish tank?

a) 28000 $cm^3$ b) 45000 $cm^3$ c) 15400 $cm^3$ d) 2000 $cm^3$

(ii) What is the lateral surface area of the tank?

a) 4800 $cm^2$ b) 2440 $cm^2$ c) 8970 $cm^2$ d) 5630 $cm^2$

(iii) Calculate the total surface area of the tank (in $m^2$)?

a) 7.15 $m^2$ b) 0.78 $m^2$ c) 8.6 $m^2$ d) 3.2 $m^2$

(iv) What is the area of plank required to cover the top of the tank?

a) 1750 $cm^2$ b) 2890 $cm^2$ c) 1500 $cm^2$ d) 8450 $cm^2$

(v) What is the cost of covering the top, if the cost of plank/ $cm^2$ is ₹ 12

a) ₹ 18000 b) ₹ 18050 c) ₹ 18500 d) ₹ 10800

## Part – B (Section-III) (2 marks each)

**(All questions are compulsory. In case of internal choices, attempt anyone.)**

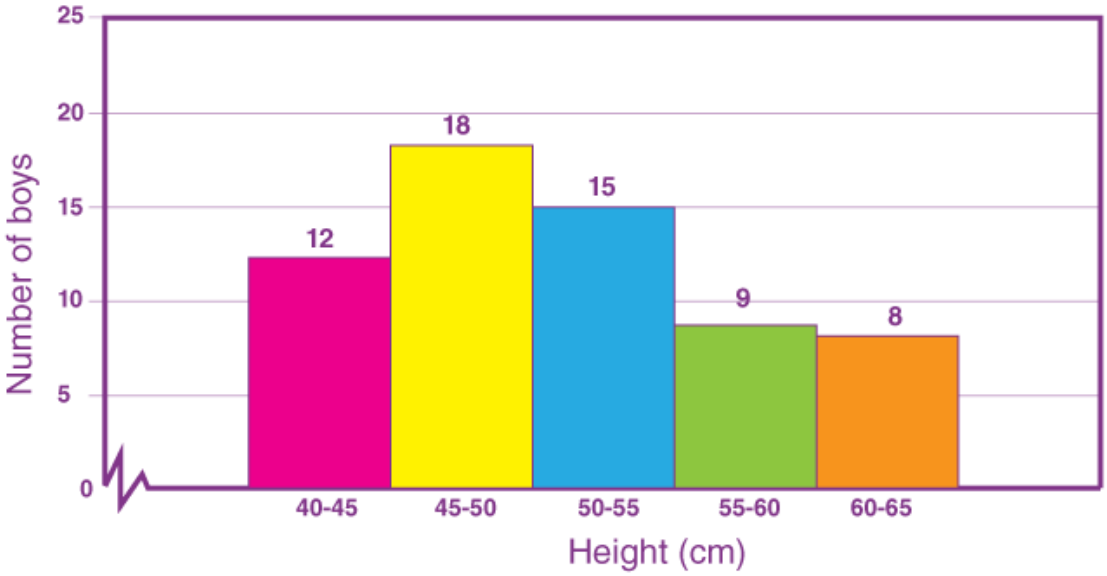
Q8. The sum of 2 consecutive multiples of 9 is 225. Find the multiples.

Q9. The area of a trapezium is 352 $cm^2$, the distance between two parallel sides is 16 cm and one of the parallel sides is 25 cm. Find the other parallel side.

(OR)

Lateral surface area of a cube is 576 $m^2$. Find its volume.

Q10. The following histogram shows the height of students within a class. Answer the following questions:




(a) Find the number of boys in the height group 50 – 60 cm?

(b) Which class interval has the maximum number of boys?

(c) What is the class mark of the class interval 40 – 45?

(d) Which class interval has the minimum number of boys?

Q11. Slips with numbers written from 1 to 20 are mixed in a bag. A slip is drawn from the bag. What is the probability of getting?

(j) A multiple of 10 (iii) an even number

(ii) Factors of 20 (iv) A multiple of 4

## (Section-IV) (3 marks each)

## (All questions are compulsory. In case of internal choices, attempt anyone.)

Q12. Mohan is four times as old as his son. Four years hence the sum of their ages will be 43 years. Find their present ages.

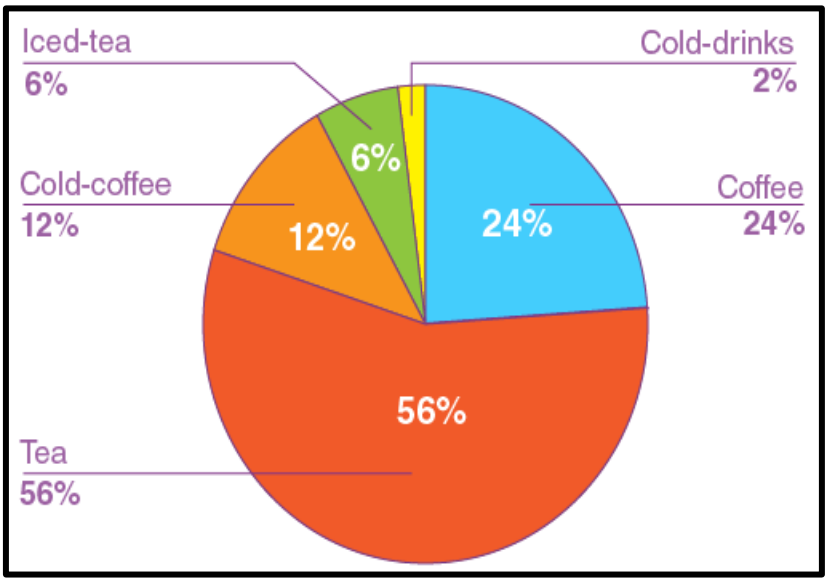
Q13. A steamer goes downstream and covers the distance between two ports in 8 hours while it covers the same distance upstream in 10 hours. If the speed of the stream is 2 km/hr., find the speed of the steamer in still water.

(OR)

The denominator of a rational number is greater than its numerator by 4. If the numerator is increased by 11 and the denominator is decreased by 1, the new number becomes $\frac{7}{3}$, find the original number.

Q14. The dimensions of a room are $16\,m \times 14\,m \times 10\,m$. Find the cost of white washing the walls and ceiling if the rate of white washing is ₹ 15 per sq.m

Q15. In the summer, a survey was conducted among 400 people about their favourite beverages. The following pie chart shows the data. Answer the following questions:




(i) How many people like tea?

(ii) How many more people like coffee than cold coffee?

(iii) How many more people like iced tea than cold drinks?

## (Section-V) (5 marks each)

## (All questions are compulsory. In case of internal choices, attempt anyone.)

Q16. Water is pouring into a cuboidal reservoir at the rate of 50 litres per minute. If the volume of reservoir is 105 $m^3$. Find the number of hours it will take to fill the reservoir. If the area of base of cuboidal reservoir is 15 $m^2$, find the height of the reservoir.

Q17. The following table shows the various modes of transport used by students in a school

| Mode of Transport | School Bus | Private | Bicycle | Rickshaw | On foot |
|---|---|---|---|---|---|
| No. of Students | 80 | 60 | 50 | 30 | 20 |

Construct a pie-diagram to represent the above data.

**(OR)**

Weekly pocket expenses (in ₹) of 30 students of class VIII are:

51, 41, 39, 34, 71, 36, 56, 61, 58, 79, 63, 72, 64, 39, 65, 39, 54, 59, 57, 37, 53, 38, 49, 45, 70, 64, 44, 37, 79, 76.

Prepare a grouped frequency distribution table taking one of the class intervals as 30 - 40.

Also draw a histogram.

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