

St. Thomas' School, Sunari, Agra**SPECIMEN PAPER****Class: VII****Subject: Mathematics****Maximum Marks: 80****Section A****Question-1. Choose the correct options and write the option number and option in your answer script.****Each question carries 1 mark.****[10]**

- i. 3136 is a perfect square of
(a) 56 (c) 67
(b) 66 (d) 57
- ii. which of the given number is divisible by 3
(a) 14653 (c) 914
(b) 13574 (d) 20000
- iii. $A^3=1728$, What is the value of A?
(a) 45 (c) 21
(b) 12 (d) 23
- iv. if 5kg of sugar costs Rs 160, find the cost of 7kg of sugar.
(a) Rs 234 (c) Rs 345
(b) Rs 224 (d) Rs 648
- v. The price of petrol increased by 8% to Rs 54 per litre. Find the old price
(a) Rs 56 (c) Rs 46
(b) Rs 50 (d) Rs 48
- vi. A man buys a watch for Rs 565 and sells it for Rs678. What will be his profit?
(a) Rs 546 (c) Rs 456
(b) Rs 113 (d) Rs 458
- vii. Two coins are tossed simultaneously, what is probability of getting heads on both coins?
(a) $1/4$ (c) $3/4$
(b) $2/4$ (d) $5/4$
- viii. The surface area of a cube is 96 m^2 . What will be its volume?
(a) 76 m^3 (c) 96 m^3
(b) 64 m^3 (d) 86 m^3
- ix. The length of the boundary of a circle is called:
(a) area (c) arc
(b) circumference (d) diameter
- x. What is the probability of impossible event?
(a) 0 (c) 2
(b) 1 (d) -1

Section B**Each question carries 2 marks.****[20]****Question 2.** Find the square root of 17 correct to two decimal places.**Question 3.** Find the cube roots of :(i) 27×125

(ii) $64 \times 343 \times 729$

Question 4. Without performing actual addition and division, find the quotients when the sum of 67 and 76 is divided by:

- (i) 13
- (ii) 11

Question 5. An army camp of 120 soldiers has enough ration to last 50 days. If 40 more soldiers join the camp after 10 days, how long will the remaining ration last?

Question 6. Anup works in a company. He was assigned with one task and he can complete the work in 16 days.

- i. What part of the work will he do in a day?
- ii. What part of the work will remain unfinished after 12 days?

Question 7. A shopkeeper bought toffees at the rate of 6 for Rs 5 and sold them at the rate of 5 for Rs 6.

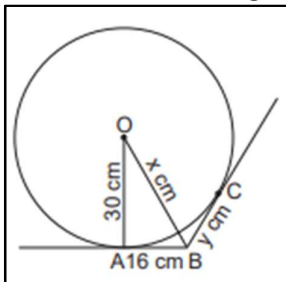
- i. What was his profit percentage?
- ii. How many toffees would he have to sell to earn a profit of Rs 55?

Question 8. Find the simple interest on Rs 12,650 for 3 years and 8 months at the rate of:

- (i) 4.5% per annum
- (ii) 0.5% per month.

Also find the amount in each case.

Question 9. In the figure given below, O is the center of the circle. Find the values of x and y.



Question 10. Verify Euler's theorem for each of the following.

- (i) A cube
- (ii) A cuboid

Question 11. Find the central point and the order of rotational symmetry of each of the following.

- (i) A square
- (iii) An equilateral triangle

Section C

Each question carries 3 marks.

[30]

Question 12. Find the least number by which 10368 should be

- (i) increased
- (ii) decreased
- (iii) multiplied

Question 13. Find the least number by which each of the following numbers should be divided to make it a perfect cube. Also, find the cube root of each perfect cube.

- (i) 5184

- (ii) 5488
- (iii) 23328

Question 14. Find the value of y for which the number $348y5$ is divisible by 9. Also find the number.

Question 15. If 8 men working 5 hours a day do a job in 15 days, in how many days will 4 men working 6 hours a day do the same job?

Question 16. Ram can assemble a computer in 2 hours, while Shyam can do so in 4 hours. If they work together, how much time will they take to assemble:

- i. one computer
- ii. six computers
- iii. If they are paid ₹2400 for their work, find each person's share.

Question 17. In an examination, Jatinder secured 23 out of 25 in Sanskrit, 49 out of 50 in mathematics, 72 out of 75 in English, and 91 out of 100 in science.

- i. Calculate his percentage marks in each subject.
- ii. In which subject did he perform the best and in which subject did he perform the worst?
- iii. Find his aggregate percentage of marks.

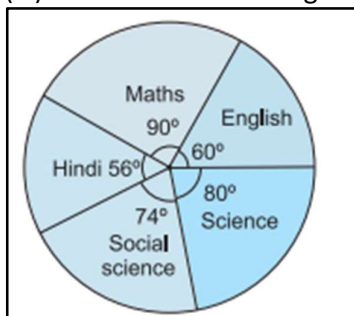
Question 18. Raman borrows Rs 12,000 for three years at 10.5% p.a. simple interest, while Aftab borrows the same amount for the same period at 10% compounded annually. Who pays more and by how much?

Question 19. In a single throw of two coins, find the probability of getting each of the following.

- (i) Tails on both
- (ii) Tails at least on one
- (iii) Tails on one

Question 20. The adjoining pie chart shows the break-up of the aggregate marks of 180 that Pinky secured in five subjects in a quarterly test. Answer the following on the basis of the pie chart.

- (i) How much did Pinky secure in science?
- (ii) In which subject did she score the best? What was her score?
- (iii) Make a table showing her marks in the five subjects.



Question 21. A circle has its center at O and its radius is 4 cm. Two radii OA and OB are such that $\angle AOB = 60^\circ$. Find the length of the chord AB .

Section- D

Each question carries 4 marks.

[20]

Question 22. In an examination, 30% of the students failed in English, 25% failed in mathematics, and 12% failed in both. Find

- i. The percentage of students who failed in only English,
- ii. The percentage of students who failed in only mathematics,

- iii. The percentage of students who failed in either one or both the subjects,
- iv. The percentage of students who passed in both the subjects.

Question 23. The cost price of a carpet is Rs 4000 which is 20% below the marked price. The trader allows a discount of 8%. Find the

- i. marked price,
- ii. selling price,
- iii. profit
- iv. profit percentage.

Question 24. Rs 30,000 is invested for some period at 8% p.a. to earn Rs 2400 as the simple interest. If the same sum is invested for the same period at the same rate of interest compounded half-yearly, find the compound interest.

Question 25. A die is thrown 100 times and the numbers shown on it are recorded as given below. If the die is thrown at random, what are the probabilities of getting a (i) 2, (ii) 3, (iii) 4 and (iv) 1 or 2?

Outcome	1	2	3	4	5	6
Number of appearances	17	13	19	16	17	18

Question 26. Observe the following histogram and answer the questions given below.

- i. What information does the histogram provide?
- ii. In how many matches has the batsman scored 100–125 runs?
- iii. In how many matches has the batsman scored 150 runs or more?
- iv. In how many matches has the batsman scored 100 runs or more?

