



Roll No.	
Name	
Class & Section	

APEEJAY COMMON ANNUAL EXAMINATION, 2019-20

MATHEMATICS

Time Allowed : 3 Hrs.

Class – VIII

Maximum Marks : 80

General Instructions :

- All questions are compulsory.
- Questions Nos. 1 to 6 are very short answer type questions of 1 mark each.
- Questions Nos. 7 to 12 are short answer type I questions of 2 marks each.
- Questions Nos. 13 to 22 are short answer type II questions of 3 marks each.
- Questions Nos. 23 to 30 are long answer type questions of 4 marks each.

Section-A

(Very short answer type questions)

- The interior angle of a regular polygon is 156° . Find the number of sides in the polygon.
- 72% of 25 students are good at mathematics. How many students are not good at mathematics?
- Factorize the following expression :
$$12a^2b + 15ab^2$$
- Express 3759×10^{-4} in standard form.
- Two unbiased coins are tossed simultaneously. Find the probability of getting exactly one head.
- A machine in a soft drink factory fills 840 bottles in 6 hours. How many bottles will it fill in 5 hours?

Section-B

(Short answer type I questions)

- Write a Pythagorean triplet whose smallest member is 6.

8. After allowing a discount of 12% on the marked price of an article, it is sold for Rs 880. Find the marked price of the article.
9. Find the value of x , if
- $$6x = 23^2 - 17^2$$
10. Find the area of a rhombus having length of each side equal to 13cm and length of one of its diagonal is 24cm.
11. If $x + \frac{1}{x} = 4$, then find the value of $x^2 + \frac{1}{x^2}$.
12. The area of a trapezium is 105 cm^2 and height is 7cm. If one of the parallel sides is longer than the other by 6cm, find the length of the two parallel sides.

Section-C

(Short answer type II questions)

13. Find the measure of each of the angle of a parallelogram if one angle is 30° less than twice the smallest angle.
14. Find the value of $\sqrt{9216}$ by long division method and hence evaluate $\sqrt{92.16} + \sqrt{0.9216}$
15. Find the least perfect square number that is divisible by each of the numbers 8, 9 and 10.
16. The following data shows the number of students opting different subjects in a college.

Subject	English	Mathematics	Physics	Chemistry	Economics	Commerce
No. of students	45	60	20	30	10	15

Construct a pie chart to represent the above data.

17. By selling a chair for Rs. 752, a carpenter loses 6%. How much percent would he gain or lose by selling it for Rs. 900 ?
18. The curved surface area of a hollow cylinder is 4224 sq. cm. It is cut along its height and a rectangular sheet of width 32cm is obtained. Find the perimeter of the rectangular sheet.
19. In a camp, 120 men had food provision for 200 days. After 5 days, 30 men left. How long will the remaining food last ?
20. Ajit can ride a scooter constantly at a speed of 30 km/hour. Draw a distance time graph for this situation. Use it to find time taken by Ajit to ride 75 km.

21. If $\left(\frac{2}{3}\right)^{-6} \times \left(\frac{16}{81}\right)^3 = \left(\frac{2}{3}\right)^{2\alpha-3}$

then find the value of α .

22. Factorize the following expression and divide as directed :

$$z(5z^2 - 80) \text{ by } 5z(z + 4)$$

Section-D

(Long answer type questions)

23. Saurabh has Rs. 34 in coins of denominations 25p and 50p. If the number of 25p coins are twice the 50p coins, how many coins of each denomination does he have?

24. Solve the given equation to find the value of variable t :

$$\frac{3t-2}{4} - \frac{2t+3}{3} = \frac{2}{3} - t$$

25. Diagonals AC and BD of a parallelogram $ABCD$ intersect at O . If $m\angle DAO = 40^\circ$, $m\angle BAO = 35^\circ$ and $m\angle COD = 65^\circ$, then find the measure of the following angles. (Give reason to justify your answer)

(i) $m\angle ABO$

(ii) $m\angle ODC$

(iii) $m\angle ACB$

(iv) $m\angle CBD$

26. 20 families in an area spend the following monthly expenditure on beverages :

85, 108, 150, 165, 98, 109, 131, 143, 119, 169, 126, 156, 136, 117, 195, 115, 182, 118, 123, 185.

Construct a frequency distribution table using tally marks taking one of the class interval as 80-100. Also draw a histogram for the above frequency distribution.

27. Find the compound interest on Rs 24000 at 15% per annum for 2 years, compounded annually.

28. The dimensions of a field are 15m by 12m. A pit 8m long, 2.5m wide and 2m deep is dug in one corner of the field and the earth removed is evenly spread over the remaining part of the field. Find the rise in the level of the field .

29. Multiply $(4x^2 + 3y)$ by $(2x + 4y - 5)$ and find the value of the product for $x = 1$ and $y = -2$.

30. Factorize the following expressions completely :

(i) $a^4 - 8a^2b^2 + 16b^4$

(ii) $a^2 - 5a - 14$