

APEEJAY COMMON ANNUAL EXAMINATION 2022-23

CLASS: VII

SUBJECT: MATHEMATICS

TIME: 3 HOURS

Max Marks: 80

General Instructions:

- This question paper has 5 sections A- E.
- Section A** has 20 MCQs carrying 1 mark each.
- Section B** has 9 questions carrying 02 marks each.
- Section C** has 8 questions carrying 03 marks each.
- Section D** has 2 case study based questions carrying 04 marks each.
- Section E** has 2 questions carrying 05 marks each.
- All questions are compulsory. However, an internal choice in two questions of 2 marks, two questions of 3 marks and one question of 5 marks has been provided.

Section A

Multiple Choice Questions

(1x20)

- If 40% of 'x' is 240, then the value of 'x' is
a) 960 b) 400 c) 600 d) 96
- The height of the triangle with base 2.5m and area 500m^2 is
a) 400m b) 125m c) 200m d) 1250m
- The factors of the term $-xy^2$ are
a) $x \times y \times y$ b) $-1 \times y \times y$ c) $-1 \times x \times y$ d) $-1 \times x \times y \times y$
- The number of vertices of a square pyramid is
a) 6 b) 5 c) 8 d) 4
- The number of lines of symmetry in letter 'S' is
a) 1 b) 2 c) 3 d) 0
- The mode of 12, 12, 16, 18, 17, 16, 12, 18, 12 is
a) 12 b) 17 c) 16 d) 18
- The solution of the equation $3y - 11 = 4$ is
a) 4 b) 5 c) 3 d) 1
- Identify the binomial out of the following:
a) $2xy - 3x^2 + 7x^2y$ b) $5xy$ c) $x + yz + zx - x^2y$ d) $3xy + 5y$
- What is the radius of the circle with area 154cm^2 ?
a) 7cm b) 14 cm c) 21 cm d) 28 cm
- 0.1 is equal to :
a) 10% b) 1% c) 0.1% d) 1.1 %

11. The number of shirts of length 2 metres each that can be made from y metres of cloth is
 a) $2y$ b) $y/2$ c) $y + 2$ d) $y + 1/2$
12. The standard form of 34790000 is
 a) 0.3479×10^8 b) 3.479×10^8 c) 3.479×10^3 d) 3.479×10^7
13. $-2\frac{1}{9} - 6 = ?$
 a) $-8\frac{1}{9}$ b) $8\frac{1}{9}$ c) $4\frac{1}{9}$ d) $-4\frac{1}{9}$
14. Multiplicative inverse of $-2/3$ is
 a) $2/3$ b) $-3/2$ c) $3/2$ d) $-2/3$
15. $(\frac{-1}{2})^3 = ?$
 a) $-3/2$ b) $1/8$ c) $-1/6$ d) $-1/8$
16. $\frac{33}{-55}$ in standard form is
 a) $\frac{3}{-5}$ b) $\frac{-3}{5}$ c) $\frac{-33}{55}$ d) $\frac{33}{55}$
17. The subtraction of 3 times y from x is represented by
 a) $3x - y$ b) $y - 3x$ c) $x - 3y$ d) $3y - x$
18. The co-efficient of x in the expression $-3xy^2z^3$ is
 a) $3y^2z^3$ b) -3 c) xy^2z^3 d) $-3y^2z^3$
19. The circumference of a circle of radius 1.4cm is
 a) 0.88cm b) 8.8cm c) 88cm d) 44cm
20. The number of lines of symmetry in a parallelogram is
 a) 4 b) 0 c) 2 d) 3

Section B

Short answer type I questions (2x9)

21. The price of an item increased from ₹2500 to ₹3000. Find the percentage increase in price .

OR

16% of a class of 25 like getting wet in the rain. How many children don't like getting wet in the rain?

22. Identify and write the term which contains y^2 and write the coefficient of y^2 in $9y - xy^2$.

23. What other name can you give to the line of symmetry of
- an isosceles triangle ?
 - a circle ?
24. Express 325% into fraction in the lowest form.
25. Find a number such that one-fourth of the number is 2 more than 8.
26. Seema saves ₹5000 from her salary. If this is 10% of her salary, find her salary.
27. Show the terms and factors of $2x^2y - 5xy^2z$ by a tree diagram.
28. Find the length of tape required to cover the boundary of a semicircular disc of diameter 35cm. (Take $\pi = 22/7$)

OR

- The diameter of a wheel of car is 70cm. Find the area of the wheel. (Take $\pi = 22/7$)
29. If two cubes each of edge 5cm are placed end to end, then name the solid thus obtained. Also write the dimensions of the solid.

Section C

Short answer type II questions

(3x8)

30. Express 2187×64 in exponential form.

OR

Using laws of exponents, simplify the following :

$$\frac{3^7 \times 10^5 \times 2^2}{5^3 \times 6^7}$$

31. Find four rational numbers between $\frac{2}{3}$ and $\frac{3}{4}$.
32. On a certain sum, the interest paid after 3 years is ₹750 at 5% rate of interest per annum.
- Find the sum.
 - Find the amount to be paid after 3 years.

OR

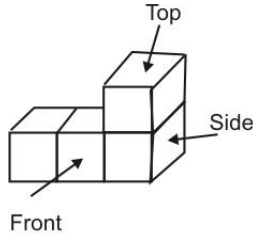
Bharat buys a watch for Rs. 940 and sells it at a loss of 10%. How much money does he get for it?

33. A girl is 28 years younger than her father. The sum of their ages is 54 years. Find the ages of the girl and her father.
34. Write the centre of rotation, angle of rotation and order of rotation for the following figures:
- a rhombus.
 - a regular hexagon.
35. The marks obtained by a group of students in a test are 86, 75, 90, 87, 39, 48, 56, 95, 81, 82 and 75. Find the mean and median marks obtained by the group.
36. Solve the given equation :

$$7 + 5(p-1) = 37$$

(3)

37. For the given solid, draw the top view, side view and the front view.



Section D

Case study based questions

(4x2)

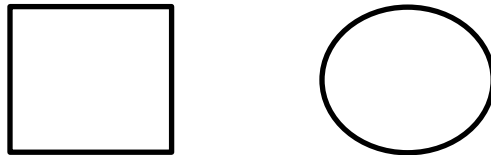
38. Nutrition for children is based on the same principles as nutrition for adults. Everyone needs the same types of nutrients- such as vitamins, minerals, carbohydrates, protein and fat. Children have greater needs for energy, water and oxygen as they go through growth processes. Balanced diet of a child should contain 10% of proteins, 25% of fats, 63% of carbohydrates and rest minerals and vitamins. A child needs 2600 calories in his food daily.



Answer the following questions based on the above case study:

- i. Find in calories the amount of proteins in his daily food intake. (1)
- ii. Find in calories the amount of fats in his daily food intake. (1)
- iii. Find in calories the amount of minerals and vitamins in his daily food intake. (2)

39. Sonam was playing with a rope and was making various shapes from it. First she took the rope and bent it to form a square of side 88 cm. Then, she rebent it to form a circle.



Answer the following questions based on the above case study:

- i. Find the length of the rope used. (2)
- ii. Find the radius of the circle. (Take $\pi = 22/7$) (2)

(4)

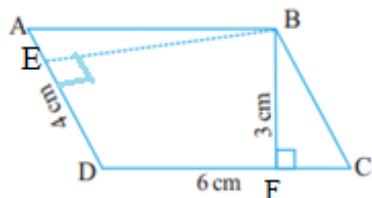
Section E

Long answer type questions

(5x2)

40. The two sides of a parallelogram ABCD are 6cm and 4cm. The height corresponding to base CD is 3cm. Find

- the area of parallelogram.
- the height corresponding to the base AD.



41. The following data shows the production of 3 types of watches in January and February.

| Watches | Type I | Type II | Type III |
|----------|--------|---------|----------|
| January | 55 | 40 | 77 |
| February | 63 | 88 | 65 |

Study the table and answer the questions that follow:

- Draw a double bar graph using appropriate scale to depict the above data.
- Which type of watch was produced the maximum in the month of January?

OR

Observe the given data and answer the questions that follow:

| Days of the week | Mon | Tues | Wed | Thurs | Fri | Sat |
|------------------------------|-----|------|-----|-------|-----|-----|
| Number of mobile phones sold | 47 | 32 | 55 | 28 | 36 | 62 |

- Draw a bar graph using appropriate scale to represent the above data.
- On which day were the maximum number of mobile phones sold ?
- Find the total sale of mobile phones during the week.