

General Instructions

1. All questions are compulsory.
2. Question No.1 [MCQ] only answers have to be written.
3. Neat and clean work is expected.
4. Draw figures wherever needed.
5. Draw rough column to the right side of the ruled sheet.
6. The question paper divided into four sections. Section A consists of 20 questions of 1 mark each. Section B consists of 8 questions of 2 marks each. Section C consists of 8 questions of 3 marks each & Section D consists of 4 questions of 5 marks each.

Section A (MCQ) (20x1=20 m)

- Q. 1. 25% of 1 Kg is
(a) 25 kg (b) 750g (c) 250g (d) 25g
- Q. 2. The coefficient of x^2 in $-5x^2y$ is
(a) -5 (b) y (c) 5y (d) -5y
- Q. 3. Rs. 100 is to be divided into Rita and Apala. Ritu gets 30%. What does Apala get?
(a) Rs.60 (b) Rs. 70 (c) Rs.50 (d) Rs.30
- Q. 4. The value of $(-2)^3$ is
(a) 8 (b) -8 (c) 16 (d) -16
- Q. 5. The expression $4p^2q - 4pq^2 + 1$ is a
(a) monomial (b) binomial (c) trinomial (d) none of these
- Q. 6. Express the following in exponential form: $a \times a \times a \times e^2 \times e \times d \times d \times d \times d$
(a) $a^3 \times c^2 \times d^4$ (b) $d^2 \times a^3 \times c$ (c) $d^2 \times a^2 \times c$ (d) $c^3 \times d^4$
- Q. 7. The value of the expression $100 - 10x^3 + 5x^2$ at $x = 0$ is
(a) 10 (b) 100 (c) -10 (d) -100
- Q. 8. In 10^6 , 10 is called.....
(a) Base (b) Power (c) Exponents (d) None of these
- Q. 9. The ratio of a unit is:
(a) rupees (b) metres (c) no unit (d) grams
- Q. 10. If 65% of students in a class have bicycle, what percent of the students do

not have bicycle?

- (a) 35% (b) 25% (c) 40% (d) 45%

Q. 11. Which of the following pairs of terms is of unlike terms

- (a) $-p^2q^2, 12p^2q^2$ (b) $-4x^2; -Axy^2$ (c) 41, 100 (d) $qp^2, 13p^2q$

Q. 12. What percent of the given figure is shaded?

- (a) 25% (b) 50% (c) 65% (d) 7



Q. 13. If $\frac{4}{3} = \frac{x}{12}$ then $x = \dots\dots\dots$

- (a) 3 (b) 16 (c) 19 (d) 12

Q.14. The area of a parallelogram of base 5 cm and height 3.2 cm is

- (a) 8 cm^2 (b) 12 cm^2 (c) 16 cm^2 (d) 20 cm^2

Q. 15. In ΔRST , the included side between $\angle S$ and $\angle T$ is _____

- (a) RS (b) RT (c) ST (d) SR

Q. 16. Which of the following cannot be a rational number?

- (a) $\frac{0}{5}$ (b) $\frac{0}{-5}$ (c) $\frac{5}{0}$ (d) -1

Q. 17. The area of a square plot is 1600 m^2 . The side of the plot is

- (a) 40 m (b) 80 m (c) 120 m (d) 160 m

Q.18. Two line segments are congruent if

- (a) They have equal length (b) They have unequal length
(c) First is equal to half of second (d) None of them.

Q. 19. The standard form of $\frac{55}{-99}$ is

- (a) $\frac{5}{9}$ (b) $-\frac{5}{9}$ (c) $-\frac{55}{99}$ (d) $-\frac{99}{55}$

Q. 20. If the side of a square are halved then its area becomes

- (a) becomes one-fourth (b) doubles
(c) becomes half (d) remains same

Section - B (8x2=16 m)

Q. 21. Write an algebraic expression:

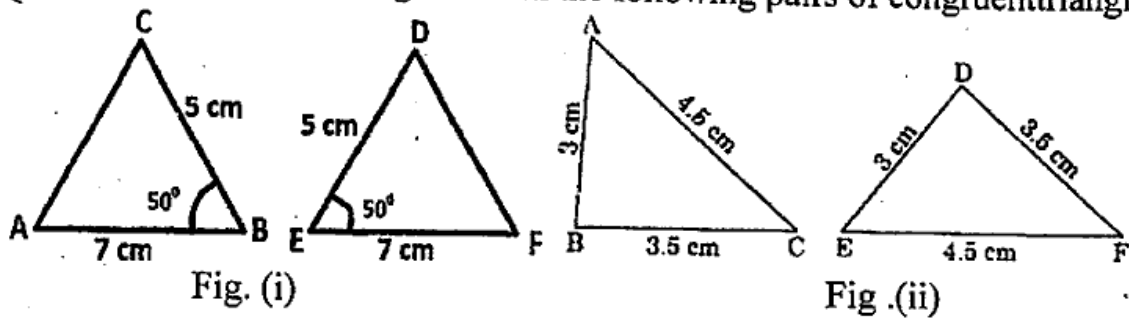
- a) The number z multiplied by itself.
b) Product of numbers a and b subtracted from 16.

Q. 22. Find the value of $(3^0 + 2^0) \times 5^0$

Q. 23. Write 4 rational number equivalent to $-\frac{2}{5}$.

Q. 24. Convert into per cent: 2.4

Q. 25. Write the rule of congruence in the following pairs of congruent triangles.



Q. 26. Fill in the blanks:

- A term of an expression having no literal factor is called a term.
- The degree of the polynomial $-7a^2 + 5a^3 - 3a + 5$ is

Q. 27. Find the circumference of the circle whose radius is 14 cm.

Q. 28. Find the ratio of 4 m to 80 cm.

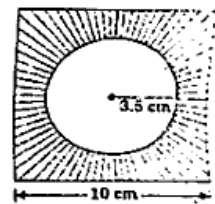
Section C

(8x3 = 24 m)

Q. 29. Express 512 as a product of powers of prime factors.

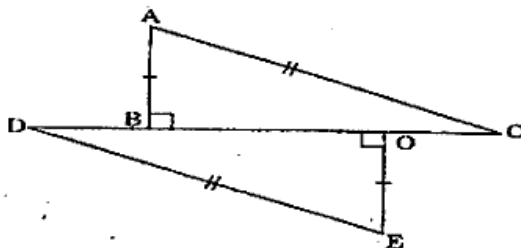
Q. 30. In the given figure, Find the area of the shaded part.

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Q. 31. In the given figure, state whether $\triangle ABC = \triangle EOD$ or not.

If yes, why? state the criterion of congruence.



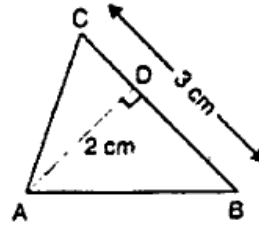
Q. 32. Simplify : i) $12m^2 - 9m + 6 - 8m^2 - 9m - 5$

ii) $(3y^2 + 5y - 4) - (2y - 5y^2 + 3)$

Q. 33. Out of 20,000 voters in a constituency, 56% voted. Find the percentage of voters who did not vote? Can you now find how many actually did not vote?

Q. 34. Simplify: $3\frac{3}{7} \div \frac{8}{21} \times \frac{1}{27}$

Q. 35. Find the area of the given triangle.



Q. 36. Using law of exponents, simplify and write the answer in exponential form:

i) $6^{15} \div 6^8$

ii) $3^2 \times 3^5$

iii) $(3^4)^3$

Section D

(5x4=20 m)

Q. 37. a) Find 40% of 300km

b) Ravi donates 6% of his salary every month to a charitable trust. If his monthly salary is Rs 20,500, how much amount will he donate in one year? Which value does Ravi show by this gesture?

Q. 38. a) What should be taken away from $3x^2 - 4y^2 + 5xy + 20$ to obtain $-x^2 - y^2 + 6xy + 20$?

3 M

b) If $p = 2$, Find the value of $3p^2 - 2p - 7$.

2 M

Q. 39. The area of a rectangular park is 9600 m^2 . If the breadth of the park is 80 m, find its length and cost of fencing the park if fencing cost is Rs. 10 per metre.

Q.40. Simplify: a) $\frac{2^3 \times 3^4 \times 4}{3 \times 32}$

3 m

b) Express the number appearing in the following statement in standard form.

2 M

i) The distance between Earth and Moon is 384,000,000m.

ii) The universe is estimated to be about 12,000,000,000 years old.

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