GUJARAT UNIVERSITY

B.ED. Examination - SEMESTER - III

December-January - 2020- 21

B-106 Pedagogy of School Subject – MATHEMATICS

Time : 2 Hour   **Total Marks : 50**

1. The difference between two whole numbers is 66. The ratio of the two numbers is 2: 5. The two numbers are:

    (A) 60 and 6   (B) 100 and 33   (C) 110 and 44   (D) 99 and 33

2. If area of square $625.25 m^2$ then measure of side is _____

    (A) 25.500 m   (B) 25.005 m   (C) 25.05m (D) 25.050 m

3. If parameter of rectangle is 13 cm and breadth is $\frac{23}{4}$ cm then length is _____

    (A) $3 \frac{3}{4}$ (B) $4 \frac{4}{3}$ (C) $4 \frac{3}{2}$ (D) $3 \frac{4}{3}$

4. If $0.25 (4f - 3) = 0.05 (10f - 9)$ then f = _____

    (A) 6   (B) 0.06   (C) - 6   (D) 0.6

5. If price of pair of shoes was 450 Rs. in one shop and 5% GST had clamed on it then amount of the bill was _____ Rs.

    (A) 472.70   (B) 427.60   (C) 472.50   (D) 477.20

6. If a radius of on cylinder is 7 cm and total surface are $968\ cm^2$ then height of cylinder will be _____

    (A) 16 cm   (B) 14 cm   (C) 15 cm   (D)21 cm

7. $\left(\frac{5}{8}\right)^{-7}$ X $\left(\frac{8}{5}\right)^{-5}$ = _____

    (A) $\left(\frac{25}{64}\right)$ (B) $\left(\frac{36}{28}\right)$ (C) $\left(\frac{12}{13}\right)$ (D) $\left(\frac{64}{25}\right)$

8. If $\left(\frac{2x}{3}\right) + 1 = \left(\frac{7x}{15}\right) + 3$ then x = _____

    (A) 90   (B) 10   (C) -10   (D) -90

9. Surface area of cube = _____

    (A) $3\iota^3$ (B) $3\iota^2$ (C) $6\iota^3$ (D) $6\iota^2$

10. 1 m^3 = _____ cm^3

   (A) 100 00 00   (B) 100 00 000

   (C) 10000   (D) 100 00 00 00

11. $\dfrac{1-\cos A}{\sin A}$ = _____

   (A) $\dfrac{\sin A}{1-\cos A}$ (B) $\dfrac{\sin A}{1+\cos A}$ (C) $\dfrac{\cos A}{1-\cos A}$ (D) $\dfrac{\cos A}{1+\cos A}$

12. If x - 1 is one of the factor of p $(x) = 2x + kx + \sqrt{2}$ then k = _____

   (A) $\sqrt{2} + 2$ (B) $-2 + \sqrt{2}$ (C) $-(2 + \sqrt{2})$ (D) $2 - \sqrt{2}$

13. $(-12)^3 + (7)^3 + (5)^3 =$ _____

   (A) 1620   (B) -1620   (C) 1260   (D) - 1260

14. _____ is one of the zeros of the polynomial $x^3 - 6x^2 + 2x - 12$

   (A) - 6   (B) 6   (C) 3   (D) 12

15. The line joining P (-2, 3) and Q (4,3) = _____

   (A) is parallel to the X axis   (B) is parallel to the Y axis

   (C) is perpendicular to the Y axis   (D) intersects both the axes

16. ∠ACD is an exterior angle of Δ ABC if ∠ACD = 110° and ∠A = 60° then

   ∠B = _____

   (A) 50°   (B) 60°   (C) 120°   (D) 30°

17. In Δ ABC, ∠A =∠C, AC = 5 and BC = 4, then the perimeter of ΔABC is _____

   (A) 9   (B) 11   (C) 13   (D) 17

18. In Δ ABC, P is the midpoint of AB and Q is the midpoint of AC, then PQCB

   is a _____

   (A) Parallelogram   (B) Rectangle   (C) Trapezium   (D) Rhombus

19. Δ PQR ∠Q = 90°, PQ = 5cm and PR = 13 cm, Then ar (PQR) = _____ cm^2

   (A) 30   (B) 15   (C) 45   (D) 60

20. In a circle with centre P, AB and CD are congruent Chords. If ∠PAB = 40°,

   then ∠CPD = _____

   (A) 90°   (B) 110°   (C) 100°   (D) 105°

21. In cyclic quadrilateral ABCD, ∠A = 70° and ∠B +∠C = 160° Then ∠B = _____

   (A) 130°   (B) 25°   (C) 35°   (D) 50°

22. The perimeter of rhombus ABCD is 40 cm and BD = 16 cm. Then

    ar (ABCD) = _____ cm^2

    (A) 48   (B) 96   (C) 24   (D) 72

23. The height of a cone is 24 cm and its slant height is 25 cm. Then its diameter

    is _____ cm.

    (A) 14   (B) 12   (C) 7   (D) 49

24. The total surface area of a closed cylinder with radius 3.5 cm and height 6.5 cm

    is _____ cm^2

    (A) 110   (B) 330   (C) 220   (D) 440

25. The surface area of a sphere is 616 cm^2. Then its radius is _____ cm

    (A) 6   (B) 14   (C) 8   (D) 7

26. The mean of first five prime number is _____

    (A) 28   (B) 2.8   (C) 5.6   (D) 1.4

27. When a balanced die is thrown the probability of getting 3 is _____

    (A) $\frac{1}{6}$ (B) $\frac{1}{4}$ (C) $\frac{1}{2}$ (D) $\frac{1}{3}$

28. $(\sqrt{3} - \sqrt{2})^2$ is a/an _____ number.

    (A) natural   (B) irrational   (C) rational   (D) whole

29. In cyclic quadrilateral ABCD, $\angle A$ - $\angle C$ = 20°. Then $\angle A$ = _____

    (A) 80°   (B) 50°   (C) 20°   (D) 100°

30. PQRS is square if PQ = 10 cm. Then PR = _____ cm.

    (A) $10\sqrt{2}$ (B) $2\sqrt{10}$ (C) 10   (D) 20

31. _____ is the smallest number which when divided by 20, 30 and 40 leaves

    a remainder 5?

    (A) 115   (B) 120   (C) 125   (D) 130

32. Product of three consecutive integers is divisible by _____

    (A) 24   (B) 6   (C) 20   (D) 8 but not by 24

33. The cubic polynomial p(x) = x^3- x has _____ zero.

    (A) 0   (B) 1   (C) 2   (D) 3

34. In a two digit number, the digit at tens place is 7 and the sum of the digits

    is 8 times the digit at unit place. Then the number is _____

(A) 70   (B) 71   (C) 17   (D) 78

35. The quadratic equation _____ has 3 as one of its roots.

(A) $x^2 - x - 6 = 0$ (B) $x^2 + x - 6 = 0$

(C) $x^2 - x + 6 = 0$ (D) $x^2 + x + 6 = 0$

36. If the sum of the three consecutive terms of A.P. is 48 and the product of the first and the last is 252, then d = _____

(A) 2   (B) 3   (C) 4   (D) 16

37. If 2k + 1, 13, 5k – 3 are three consecutive terms of A.P. then k = _____

(A) 17   (B) 13   (C) 4   (D) 9

38. Correspondence ABC ↔ DEF of Δ ABC and Δ DEF is similarity if AB + BC = 10 and DE + EF = 12 and AC = 6, then DF = _____

(A) 6   (B) 5   (C) 7.2   (D) 16

39. The lengths of the sides of Δ DEF are 4, 6, 8 Δ DEF ~ Δ PQR for correspondence DEF ↔ QPR. If the perimeter of Δ PQR = 36, then the length of the smallest side of Δ PQR is = _____

(A) 6   (B) 2   (C) 4   (D) 8

40. In Δ XYZ, m $\angle x$: m$\angle y$: m $\angle z$ = 1 : 2 : 3. If XY = 15 YZ = _____

(A) 5.7   (B) 17   (C) 8   (D) 7.5

41. If Δ ABC, m $\angle A$ = 90, $\overline{AD}$ is a median. If AD = 6, AB = 10, then AC = _____

(A) $2\sqrt{11}$ (B) 8   (C) 7.5   (D) 16

42. A (0, 0) B (3, 0), C (3, 4) are the vertices of a _____ triangle.

(A) equilateral   (B) right angled   (C) isosceles   (D) acute angled

43. The value tan 20° tan 25° tan 45° tan 65° tan 70° is _____

(A) -1   (B) 1   (C) 0   (D) $\sqrt{3}$

44. The tops of two poles of height 18m and 12m are connected by a wire if the wire makes an angle of measure 30° with horizontal then the length of the wire is _____

(A) 12m   (B) 10m   (C) 8m   (D) 4m

45. A chord of ⊙ (0, 5) touches ⊙ (0, 3). Therefore the length of the chord = _____

(A) 10   (B) 7   (C) 8   (D) 6

46. The area of the largest triangle inscribed in a semi circle of radius 8 is _____

    (A) 8   (B) 16   (C) 256   (D) 64

47. The radii of a frustum of a cone are 5 cm and 9 cm and height is 6 cm, then the volume is _____ cm^3

    (A) 320π (B) 302π (C) 151π (D) 98π

48. If $\bar{x} - 2 = 3$ and $\bar{x} + 2 = 45$ then M = _____

    (A) 24   (B) 22   (C) 26   (D) 23

49. The sum of the probability of all the elementary events of an experiment is _____

    (A) 0   (B) 0.2   (C) 1   (D) 0.8

50. The diameter and the height of the cylinder are 14cm and 10cm respectively then the total surface are is _____ cm^2

    (A) 44   (B) 308   (C) 1010   (D) 748