CADET COLLEGE PETARO

ENTRY TEST 2014 FOR ADMISSION TO PRE O-LEVEL

MATHEMATICS

Time 01 Hour | Max Marks: 100

(SECTION-A) **Marks-75**

Q. No.1 Choose the correct answer

1. If $U=\{1,2,3,..10\}$, $A=\{1,2,3,4,...15\}$ and $B=\{2,4,6...10\}$, Then $A'UB'$ is [2]

   a) $\{1,3,5,7,9\}$ b) $\{1,2,3,4,5,6,7,8,9,10\}$ c) $\{1,2\}$ d) Not possible

2. An angle that measures between 90° and 180° is called

   a) Straight Angle b) Right Angle c) Complete angle d) Obtuse Angle. [1]

3. The sum of angles in a triangle is equal to

   a) 180° b) 0° c) 360° d) None of these [1]

4. The simplest for of $-2[3a-4\{a-(2+a)\}]$ is

   a) $-5a-10$ b) $-6a-10$ c) $6a+16$ d) $-6a-16$. [2]

5. $\frac{3}{4},\frac{7}{8},\frac{3}{16}$ which of the three rational number is the largest?

   a) $\frac{3}{4}$ b) $\frac{7}{8}$ c) $\frac{3}{16}$ d) None of these.

6. 25% of 640 is [2]

   a) 160 b) 320 c) 64 d) None of these

7. The cost of a television set is raised from \$600 to \$624.The percentage increase is [2]

   a) 8% b) 4% c) 15% d) 100%

8. The perimeter of the square with side 6cm is [2]

   a) 20 b) 25 c) 36 d) 24

9. The simplified form of $\frac{3}{5}-\left(-\frac{4}{13}\right)$ is [2]

   a) $\frac{69}{65}$ b) $\frac{65}{13}$ c) $\frac{59}{65}$ d) None of these

10. We use Pythagoras's Theorem when the triangle is [2]

    a) Isosceles b) Equilateral c) Right Angle d) Scalene.

11. Area of triangle whose base=20cm and height=20cm is [2]

    a) $100cm^2$ b) $10cm^2$ c) $200cm^2$ d) $400cm^2$

12. -27 is the answer of [1]

a) $(-27)^2$ b) $(-2)^7$ c) $(-3)^3$ d) $(3)^3$

13. The simplified form of $-2x+4y-5y-10x$ is [2]

a) $-12x+y$ b) $-12x+9y$ c) $-12x-y$ d) $2y-15x$

14. 3.142×0.94 =? [2]

a)2.9849 b) 3.9849 c) 4.183 d) 4.082

15. $1.05\div0.05$=? [2]

a) 21.5 b) 21 c) 22 d) None of these

16. The set of all possible subset of a set is called

a) Union of sets b) Intersection of sets c) power set d) None of these [1]

17. $\frac{1}{0}$ Is equal to

a) 0 b) 1 c) ∞ d) 0.5 [1]

18. $\frac{\frac{2}{7}}{5}$ is equal to

a) $\frac{2}{35}$ b) $\frac{10}{7}$ c) $\frac{35}{2}$ d) Not possible [2]

19. $2^0=?$ [1]

a) 0 b) 2 c) 1 d) ∞

20. $\left(\frac{x^{-1}}{y^{-2}}\right)\times\frac{x}{y^2}=?$ [2]

a) $\frac{x^2}{y^3}$ b) 1 c) 0 d) $\frac{x^2y}{y^3}$

21. What is the largest prime number less than 100. [2]

(a) 93 (b) 95 (c)97 (d) 99

22. The H.C.F of 15 and 75 is [2]

(a) 15 (b) 25 (c) 75 (d) 125

23. Identify the pair of numbers below which are divisible by9 [2]

(a) 6931,3540 (b) 783,2439 (c) 188 ,224 (d) 5610,3841

24. The volume of a cube of side 8cm is [2]

(a) $16\,cm^2$ (b) $24\,cm^3$ (c) $512\,cm^3$ (d) $64\,cm^3$

25. The L.C.M of 65 and 130 is [2]

(a) 13 (b) 130 (c) 65 (d) 17

26. There are 29 students in class A,25 students in a class B,and 24 students in a class C.What is the average Number of students in these classes [2]

(a) 25 (b) 26 (c) 27 (d) 29

27. Apples are sold in cartons of 24.How many Apples are there in 26 such cartons? [2]

(a) 642 (b) 426 (c) 464 (d) 624

28. A triangle having two sides equal is called [1]

(a) Scalene (b) Isosceles (c) Equilateral (d) Right angle

29. The sum of the four angles of a quadrilateral is [1]

(a) 90° (b) 180° (c) 270° (d) 360°

30. $677 \div 1000 = ?$ [2]

(a) 67.7 (b) 6.77 (c) 0.677 (d) 0.0677

31. Find the ratio of $\frac{2}{3}$ to $\frac{5}{8}$ [2]

(a) $\frac{10}{24}$ (b) $\frac{16}{15}$ (c) $\frac{6}{40}$ (d) $\frac{5}{12}$

32. The statement $(5+6)+3=5+(6+3)$ represents_____property of addition. [2]

(a) Commutative (b) associative (c) distributive (d) no property

33. If 't' is an odd number, the expression for the next consecutive odd number is _____ [2]

(a) t+2 (b) t+1 (c) t-1 (d) 2t

34. The cube root of number'125' is _____. [2]

(a) 1 (b) 3 (c) 5 (d) 7

35. The supplementary angle of 118° is _____. [2]

(a) 42° (b) 52° (c) 62° (d) 72°

36. The common factor of 45 and 75 are [2]

(a) 3 (b) 5 (c) 15 (d) 45

37. The polygon with six sides is called_____ [1]

(a) Triangle (b) Quadrilateral (c) Pentagon (d) Hexagon.

38. $60+10\times2-40\div10$ _____ 70 [3]

(a) $\leq$ (b) < (c) > (d) None of these.

39. The numbers 2,3,5,7,11,13,17….. are called_____. [1]

(a)Natural numbers (b) Whole Numbers (c) Integers (d) Prime Numbers

40. $21 \div \frac{1}{35}$ [2]

(a) $\frac{3}{5}$ (b) $\frac{5}{3}$ (c)735 (d)None of these

41. Natural numbers between 8 & 9 are [1]

(a) 8.5 (b) 9 (c) 8.2 (d) None of these

42. The unit of Area is

(a) cm (b) cm^2 (c) cm^3 (d) None of these [1]

43. Estimate and pick the nearest answer $\sqrt{930}$ [2]

(a) 10 (b) 100 (c) 30 (d) 300

44 In triangle ABC, $m<A = 48°$, and $m<C = 24°$. What type of triangle is triangle ABC ?

(a) acute (b) right (c) obtuse (d) isosceles [1]

SECTION B **Total Marks 25**

Q.NO2:- Simplify

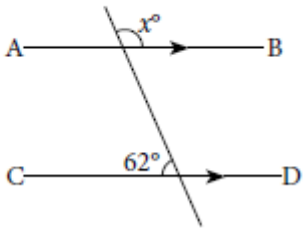
(a) $\frac{2(5x-1)}{3} - \frac{x-3}{5}$ [5]

(b) If the perimeter of the square is 28cm.What is the area of that square? [5]

(c) When a number is divided by 4 and has 12 subtracted from it, the result is $\frac{1}{6}$ of the number

What is the number? [5]

(d) In the diagram, AB is parallel to CD. The value of x is _____.



[5]

(e) If a=3,b=2 and c=-1 Find the value of the following [5]

1) $(a-b)^2-(b-c)^2$

2) $a^b - c^a + b^a$