I. Objective type questions :

Maths

1. Solution of x+3y=8 and 3x=2+2y
   a. (1,1)    b. (2,2)    c. (3,3)    d. (-2,-2)

2. Roots of the equation of 4x-18=3y and 6x+7y-4=0
   a. (3,2)    b. (2,3)    c. (3,-2)    d. (-3,2)

3. If one of the root of x/6 + 6=y and 3x/4 = x+y is 12 and another root to
   a. 12   b. 8   c. 4   d. 2

4. If (3x+4)^2 + (3x-2)^2 = (6x+5) (3x-2) +12 then x= _____
   a. 1    b. 2    c. -1    d. -2

5. If the sides of an equilateral triangle are (x+3y) cm , (3x+2y) cm and (4x+½ y +1) cm
   then the length of a side of a triangle is
   a. ½    b. 1    c. 1½    d. 3½

6. If x+y=5x+y, y+z=6yz, z+x=zxthen x+y+z=____
   a. 13/12  b. 12/13  c. 1 1/13  d. 1

7. No. of pair of interreges (m,n) such that 2mn – 5n+n=55
   a. 10   b. 15   c. 16   d. 20

8. In a two digit number the ten’s digit exceeds the units digit by 3. The sum of the
digits is 5/23 of the number, the number is
   a. 96   b. 69   c. 36   d. 63

9. The dimensions of a rectangle are (8x+6y) m and 4x+2y)m. if the path of uniform
   width (x+y) m runs all around on the outside then the area of path is ___m^2
   a. 28x^2-48xy+20y^2    b. 28x^2-48xy-20y^2
   c. 28x^2-48xy+20y^2   d. 28x^2+48xy-20y^2

10. In a quadrilateral ABCD diagnol AC= the length of the perpendiculars from B and D
to AC are 5cm and 7cm respectively, then the area of the quadrilateral is __cm^2
    a. 40   b. 50   c. 60   d. 70

11. If the parallel sides of a trapezium are 22cm and 10cm while its non parallel sides are
    13cm and 5cm, then the area of the trapezium is _________ sqcm
    a. 100   b. 80   c. 60   d. 40

12. If the cost ploughind the circular field at Rs 1.50 per m^2 is Rs 5775 then cost of
    fencing the field at Rs 8.50 per metre is Rs ________
    a. 1870   b. 1780   c. 1980   d. 1890

13. If the perimeter of a semicircle is 36cm, the its diameter is _____cm
14. Two circles touch externally. The distance between their centres is 14 cm then radii of the circles are _______.
   a. (11, 3)  b. (10, 4)  c. (9, 5)  d. (8, 6)

15. The perimeter of a sector of a circle of radius 5.6 cm is 27.2 cm then the area of sector is _______ cm².
   a. 448  b. 44.8  c. 4.48  d. 0.448

16. In the given figure ABC is A is a quadrant of a circle of radius 14 cm with Ac as diameter, a semi circle is drawn, the area of the shaded region is _______ cm².
   A. 154  B. $14\sqrt{2}$  C. 98  D. 108

17. The sum of radii of two circles is 7 cm and the difference of their circumferences is 8 cm then the radius of bigger circle is _______.
   a. $\frac{99}{22}$  b. $\frac{63}{22}$  c. $\frac{22}{99}$  d. $\frac{22}{63}$

18. The radius of the wheel of a bus is 42 cm, no. of revolutions will it complete in 19.8 km, of journey is _______.
   a. 75  b. 750  c. 7500  d. 75000

19. Four cows are tethered at the four corners of a square field of side 50 m such that each can graze the maximum unshaded area, then the area will be _______.
   a. 2500  b. 537.5  c. 1962.5  d. 4462.5

20. The minute hand of a clock is 15 cm long, then the area swept by it in 20 minutes is _______ cm².
   a. 535.5  b. 706.5  c. 607.5  d. 235.5

Physics

21. Newton's law of motion is also called as _______.
   (a) Charles  (b) Galileo's  (c) Newton's.  (d) Columbus

22. 1 kg. wt _______.
   (a) 9.8 N.  (b) 98 N  (c) 980 N  (d) 9800 N

23. Inertia of a body has a direct dependence on _______.
   (a) Velocity  (b) mass  (c) area.  (d) volume

24. Force generally denotes _______.
   (a) a push  (b) a pull  (c) both A and B.  (d) None
25. Weight of an object is always directed
   (a) vertically downward (b) vertically up
   (C). parallel to surface (d) inclined

26. Newton's second law of motion gives the quantitative definition of
   (a) force (b) mass (c) speed (d) velocity

27. Find the magnitude of momentum of a body of mass 10 kg moving with a velocity of 5 m/s
   (a) 40 kgm/s (b) 30 kgm/s (c) 50 kgm/s (d) 60 kgm/s

28. The tension in the rope when they become slack
   (a) zero (b) constant (c) unequal (d) none

29. The gravitational force of attraction of the earth acting on a body is known as
   (a) mass (b) weight (c) acceleration (d) none

30. Force =
   (a) mass x acceleration (b) mass x speed (c) speed x distance (d) none

31. Tension across muscles pulley or frictionless pulley remains
   (a) zero (b) constant (c) unequal (d) none

32. Momentum is a
   (a) scalar (b) vector (c) tensor (d) none

33. Which of the following has the largest inertia?
   (a) a pen. (b) a pin (c) your physics book (d) your loaded school bag

34. A car of mass 1800 kg moving with a speed of 10 m/s is brought to rest after covering a distance of 50 m. Calculate the force acting on a car
   (a) 1800 N (b) 900 N (c) 3600 N (d) 1600 N

35. A body of mass 5 kg started from rest with an acceleration of 4 m/second square. Its momentum after 5 s is
   (a) 20 kgm/s (b) 100 kgm/s (c) 4 kgm/s (d) 25 kgm/s

Chemistry

36. Latin name of silver is
   (a) Aurum (b) argentium (c) argon (d) asmium

37. An element X has electronic configuration is $1s^22s^22p^6$ it represents
   ..... element
   (a) Ar (b) Na (c) Nc (d) Ni

38. The element x having atomic number is 21 and its atomic weight is 45. The symbol x is
39. A divalent cation is isoelectronic with CO$_2$ and has (z+2) neutrons. The ionic mass of divalent cation is
a. 48          b. 45          c. 50          d. 51

40. If z=20 and A=40 for an unknown element x and the number of neutrons in another element y (z=18) is more than in x. the mass no of y is
a. 20          b. 38          c. 40          d. 18

41. The symbol of a metal which is used in making thermometer is
a. Ag          b. Hg          c. Mg          d. Sg

42. Atomic weights of Si, Cr, Ca respectively are
a. 28,40,52     b. 52,28,40    c. 52,40,28    d. 28,52,40

43. Acidic radical also called
a. Anion        b. cation       c. electropositive radical       d. none

44. Per chloride radical is

45. An example of basic radical is
a. Chloride     b. calcium      c. sulphate     d. sulphide

46. NaHSO$_4$ is the formula of sodium
a. Sulphate     b. bisulphate   c. sulphite     d. bisulphate

47. A monovalent cation is isoelectronic with NO$_2$ and has (z+1) neutrons. The ionic mass of monovalent cation
a. 48          b. 49          c. 50          d. 51

48. A monovalent cation is electronic with NO$_2$ and has (z+1) neutrons. The ionic mass of monovalent cation
a. 48          b. 49          c. 50          d. 51

49. An ion X has isoelectrons. It has (z+1) neutrons. The mass no of X is
a. 20          b. 30          c. 19          d. 18

50. An ion has 3 positive charges the mass no of the ation is 27 and neurons no is 14. The no of electrons in ion is
a. 13          b. 12          c. 11          d. 10