**Class- X**                                                           **Session- 2023-24**
**Subject- Mathematics , Science & Social Studies**
**Time: $1\frac{1}{2}$ Hrs.**                                          **M.M : 60**

*INSTRUCTIONS:*

*Mark the correct alternative in each of the following questions.*
*Each question carries 1 mark*

## Mathematics

1. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is
   (a)13            (b) 65            (c) 875            (d)1750

2. If α and 1/α are the zeroes of the polynomial $ax^2 + bx + c$, then value of c is
   (a)0         (b)a                (c)-a                (d) 1

3. The value of k, for which the system of equations x + (k + l)y =5 and (k + l)x + 9y = 8k − 1 has infinitely many solutions is
   (a) 2         (b) 3           (c) 4            (d) 5

4. The pair of equations x + 2y + 5 = 0 and −3x − 6y + 1 = 0 have
   (a) a unique solution                     (b) exactly two solutions
   (c)infinitely many solutions              (d) no solution

5. The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then the other number is
   (a) 20              (b) 28             (c) 60             (d) 80

6. Three bells toll at intervals of 9, 12, 15 minutes respectively. If they start tolling together. After how many hours will they next toll together?
   (a) 2 hours      (b) 1 hour     (c) 4 hours      (d) 3 hours

7. If the zeroes of the quadratic polynomial $x^2 + (a + 1) x + b$ are 2 and -3, then _____
   (a) a = -7, b = -1          (b) a = 5, b = -1         (c) a = 2, b = -6          (d) a = 0, b = -6

8. If the sum of the zeroes of the quadratic polynomial $kx^2 + 2x + 3k$ is equal to their product, then $k$ equals
   (a) 2/3              (b) -2/3               (c) 3/2               (d) 3/-2

9. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of $k$ is
   (a) 10               (b) -10           (c) -7          (d) -2

10. The 2 digit number which becomes 6/5 th of itself when its digits are reversed. The difference in the digits of the number being 1, then the two digits number is
    (a) 45              (b) 54              (c) 36               (d) None of these

11. For which value($s$ ) of $p$, will the lines represented by the following pair of linear equations be parallel $3x - y - 5 = 0$ ; $6x - 2y - p = 0$
    (a) all real values except 10             (b) 10              (c) 5/2            (d) 1/2

12. Each root of $x^2 − bx + c$ is decreased by 2. The resulting polynomial is $x^2 − 2x + 1$ , then
    (a) $b = 6, c = 9$       (b) $b = 3, c = 5$      (c) $b = 2, c = (-1)$     (d) $b = (-4), c = 3$

13. What is the quadratic polynomial whose sum and the product of zeroes are √2, 1/**3** respectively?
    (a) $3x^2-3\sqrt{2}x+1$      (b) $3x^2+3\sqrt{2}x +1$        (c) $3x^2+3\sqrt{2}x -1$          (d) None of the above

14. If the sum of the zeros of the quadratic polynomial $3x^2 – kx + 6$ is 3, the value of k is
    (a) 3              (b) -3            ( c) 6            ( d ) 9

15. The pair of equations x = 0 and x = 5 has
    (a) no solution                        (b) unique/one solution
    (c) two solutions                      (d) infinitely many solutions

16. Two numbers are in the ratio of 15:11. If their H.C.F. is 13, then the numbers are
    (a)195,13           (b) 195,143           ( c) 143,13           ( d )143,165

17. If HCF of 55 and 99 is expressible in the form 55 m – 99, then the value of m is
    (a) 4               (b) 2               (c) 1               (d) 3

18. The father's age is six times his son's age. Four years hence, the age of the father will be four times his son's age. The present ages, in years, of the son and the father are,____ respectively
    (a) 4 and 24           (b) 5 and 30           (c) 6 and 36           ` (d) 3 and 24

19. If the LCM of a and 18 is 36 and the HCF of a and 18 is 2 then find the value of a.
    (a) 12                (b) 36                ( c ) 9                ( d ) 4

20. If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; a, b being prime numbers, then LCM (p, q) is
    (a) $a^3b$            (b) $ab^2$            ( c ) $a^3b^2$            ( d ) $a^3b$

## SCIENCE

21. Calcium Oxide reacts vigorously with water to form Slaked lime.

    $Cao(s) + H_2O (l)$ ----------------$Ca (OH)_2 (aq)$
    This reaction can be classified as-
(A) Combination reaction (B) Exothermic reaction  (C) Endothermic reaction (D) Oxidation reaction
        (a) A and C                (b) C and D                (c )A, C and D                (d)A and B

22. Select the oxidizing agent for the following reaction-
$H_2S + I_2$----------$2HI + S$
        (a) $I_2$                    (b)$H_2S$                    (c) HI                    (d)S

23. What type of chemical reaction takes place when electricity is passed through water?
(a)Displacement        (b)Combination        (c) Decomposition        (d)Double displacement

24. When Silver is exposed to air, it gets a black coating of-
        (a)Silver Nitrate $(AgNO_3)$                            (b)SilverSulphide$(Ag_2S)$
        (c )Silver Oxide $(Ag_2O)$                             (d)SilverCarbonate $(Ag_2CO_3)$

25. Rancidity is –
        (a)Oxidation of food                                    (b)Reduction of food
        (c )Either Oxidation or Reduction of food              (d)Fermentation of food

26. Magnesium ribbon is cleaned with sandpaper before burning because it has a coating of
        (a)Basic magnesium carbonate                          (b)Basic magnesium oxide
        (c )Basic magnesium sulphide                          (d)Basic magnesium chloride

27. Carbohydrates in plants are stored in the form of-
        (a)Glycogen            (b)Glucose            (c )Starch            (d)Sugar

28. In the experiment to show that Carbon dioxide is necessary for photosynthesis, KOH is kept to-
        (a)Seal the bell jar  (b) To absorb CO2 (c )To absorb Oxygen  (d)To keep the leaves green

29. The break down of six carbon compound Glucose into a three-carbon compound pyruvate takes place in
        (a)Chloroplast        (b)Cytoplasm        (c )Mitochondria        (d)Lungs

30. Which of the following events in the mouth cavity will be affected if salivary amylase is lacking in saliva?
        (a)Starch breaking down into sugars.              (b)Proteins breaking down into amino acids.
        (c )Absorption of vitamins        (d)Fats breaking down into fatty acids and glycerol.

31. The length of small intestine in Deer is more as compared to the length of small intestine in Tiger. The reason for this is-
        (a)Mode of intake of food                              (b)Type of food consumed.
        (c )Presence or absence of villi in intestine.        (d)Presence or absence of digestive enzymes.

32. The instrument used to measure blood pressure is-
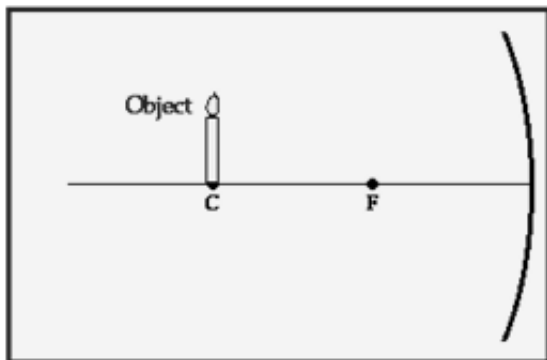        (a)Spirometer            (b)Sphygmomanometer                (c )ECG                (d)EEG

33. Gall bladder
(a)Produces Bile                              (b)Adds mucus to the food
(c )Stores bile secreted by liver             (d)Secretes Saliva

34. An object is at a distance of 0.5 cm in front of a plane mirror. Distance between the object and image is
(a)0.25cm              (b) 0.5 cm              (c )  1 cm              (d) 2cm

35. Which of the following statements is not true in reference to the diagram shown below?



(a)Image formed is real                                    (b) image formed is enlarged
( c)Image is formed at a distance equal to double the focal length    (d)  image is inverted

36. The radius of curvature of a converging mirror is 30 cm. At what distance from the mirror should an object be placed so as to obtain a virtual image ?
(a)Infinity        (b) 30 cm        (c ) between 15 cm and 30 cm        (d) between 0 cm and 15 cm

37. The focal length of a convex mirror of radius of curvature 1m is
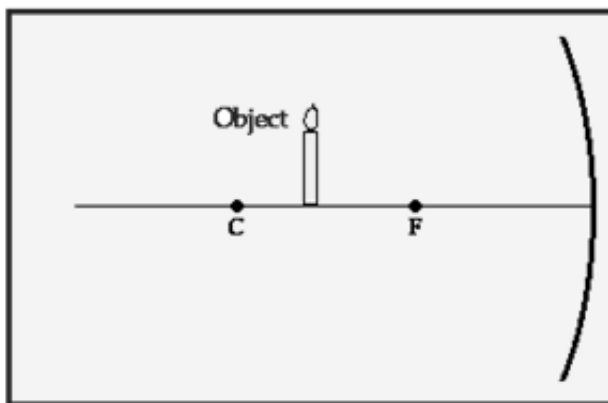(a)2m                  (b) 1.5 m                  (c) 1m                  (d) 0.5 m

38. The image of an object placed in front of concave mirror of focal length 15 cm is of the same size as the object. The distance between the object and its image is
(a) 0cm              (b) 15 cm              (c ) 30 cm              (d) 60 cm

39. If a light ray from an object is incident on a diverging mirror at a distance of 20 cm from the mirror , then the image is formed
(a) At F              (b) between F and C              (c) at C              (d) between P and F

40. With reference to the ray diagram given below, the position and nature of the image is



   (a)Real, inverted, between F and C
   (b)Real. Inverted, beyond C
   (c )Virtual, erect, behind the mirror
   (d)Virtual , erect, between F and the mirror in front of it.

## SOCIAL SCIENCE

41. In Belgium, there were tensions between the Dutch-speaking and _____ speaking communities during the 1950s and 1960s.
    a) German          b) French          c) English          d) Russian

42. In the island nation of Sri Lanka, the Sri Lankan Tamil population is concentrated in the _____ and _____ of the country.

a) South and West      b) South and East    c) North and Central      d) North and East

43. Most of the Sinhala-speaking people of Sri Lanka are _____.

a) Christians       b) Hindus       c) Buddhists       d) Muslims

44. Sri Lanka emerged as an independent country in _____.

a) 1948       b) 1947       c) 1949       d) 1958

45. The amended Constitution of Belgium prescribed that the number of _____ and French-speaking ministers shall be equal in the Central Government.

a) Italian       b) German       c) English       d) Dutch

46. _____ is elected by people belonging to one language community – Dutch, French and German-speaking – no matter where they live. This government has the power regarding cultural, educational and language-related issues.

a) District Government    b) State Government    c) Community Government   d) Central Government

47. When many countries of Europe came together to form the European Union, _____ was chosen as its headquarters.

a) Brussels       b) Paris       c) London       d) Zurich

48. On the basis of origin, resources can be classified as _____ and _____.

a) Biotic and Abiotic          b) Renewable and Non-renewable

c) Potential and Developed                d) None of the above

49. **As per the 2011 census, which among the following states has the highest literacy rate?**

a) Kerala       b) Maharashtra       c) Bihar       d) Odisha

50. Minerals and fossil fuels are examples of non-renewable resources which take _____ for their formation.

a) Hundreds of years       b) Thousands of years       c) Millions of years       d) Just a year

51. All the minerals, water resources, forests, wildlife, land within the political boundaries and oceanic area up to _____ from the coast termed as territorial water and resources therein belong to the nation.

a) 20 nautical miles       b) 25 nautical miles       c) 15 nautical miles       d) 12 nautical miles

52. The oceanic resources beyond _____ of the Exclusive Economic Zone belong to the open ocean, and no individual country can utilise these without the concurrence of international institutions.

a) 200 nautical miles       b) 12 nautical miles       c) 22.5 nautical miles       d) 100 nautical miles

53. _____ are the resources which are surveyed, and their quality and quantity have been determined for utilisation.

a) Developed resources    b) Reserves       c) Stock       d) Abiotic

54. In June 1992, more than 100 heads of state met in _____ in Brazil for the first International Earth Summit.

a) Rio de Janeiro       b) São Paulo       c) Brasilia       d) Curitiba

55. The states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and _____ deposits.

a) Coal     b) Gold       c) Silicon       d) None of the above

56. To compare the development of countries, their _____ is considered to be one of the most important attributes.

a) per capita income       b) population       c) demographics       d) none of the above

57. Since countries have different _____, comparing total income will not tell us what an average person is likely to earn.

a) economic policies     b) reserves       c) resources       d) populations

58. In World Development Reports, brought out by the_____, per capita income criterion is used in classifying countries.

a) UNICEF       b) World Bank       c) World Economic Forum.       d) United Nations

59. Among the following states, _____ has the highest per capita income as per 2012-13 figures.

a) Maharashtra       b) Bihar       c) Kerala       d) Jharkhand

60. Infant Mortality Rate (IMR) indicates the number of children that die before the age of _____ as a proportion of 100 live children born in that particular year.

a) four years       b) one year       c) two years       d) three years

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