1. At any point P on the ground the angles of elevation of the top of a 10 metre high building and that of a helicopter flying just over the building are 30^0 and 60^0 respectively. Find the height of the helicopter from the earth.

    (Given $\sin 30^0 = \dfrac{1}{2}, \cos 30^0 = \dfrac{\sqrt{3}}{2}$)

    (a) $10\sqrt{3}$ m   (b) 20 m

    (c) $\dfrac{30}{\sqrt{3}}$ m   (d) 30 m

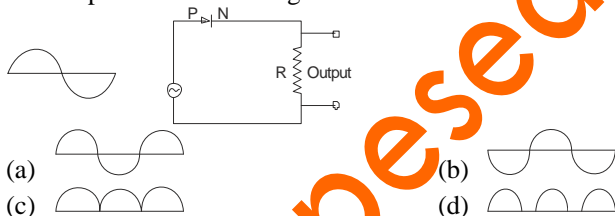2. If the applied force and the displacement of body are inclined to each other at 90^0, then the work done is
    (a) Infinity   (b) Maximum
    (c) Zero   (d) Cannot be determined

3. The COS unit of charge is
    (a) State coulomb   (b) ESU
    (c) both (a) and (b)   (d) None of these

4. The output of the following circuit is

    (a)   (b)
    (c)   (d)

5. The intensity of sound that can damage the layer of ear is
    (a) 20 dB   (b) 60 dB
    (c) 100 dB   (d) 160 dB

6. The amount of work done in raising body of mass 1 kg to a height of 9.8 m, is
    (a) 1 joule   (b) 9.8 joules
    (c) $(9.8)^2$ joules   (d) None of these

7. With a fuse of 10 A and at 220V, how many bulbs each of 200 W can be used safely?
    (a) 11   (b) 10
    (c) 20   (d) None of these

8. Which metal is abundantly found in earth's crust?
    (a) Aluminium   (b) Potassium
    (c) Iron   (d) Calcium

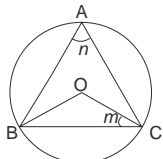9. Find the coordinates of that point which divides the line joining the points (1, 3) and (2, 7) in the ratio 3 : 4.

    (a) $\left(\dfrac{3}{2}, 5\right)$ (b) $\left(\dfrac{10}{7}, \dfrac{33}{7}\right)$
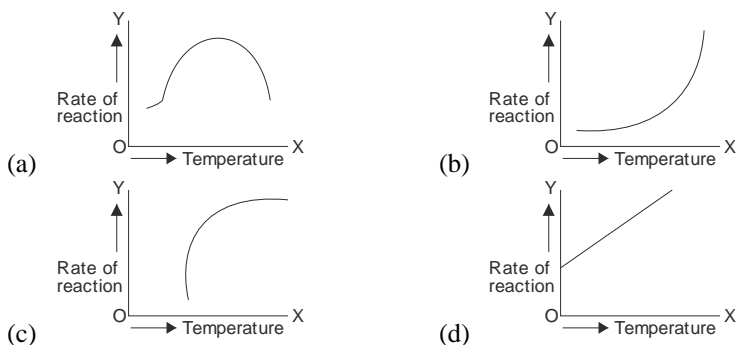
(c) $(-2, -9)$ (d) $\left(\dfrac{5}{3}, 5\right)$

10. If a sum doubles in 16 years, how much will it be in 8 years?

(a) $1\dfrac{1}{2}$ times   (b) $1\dfrac{1}{3}$ times

(c) $1\dfrac{3}{4}$ times   (d) $1\dfrac{1}{4}$ times

11. Find the pair of those numbers which is not alike in property to the other three pairs.
(a) 47, 59   (b) 61, 73
(c) 29, 42   (d) 57, 69

12. The total surface area of a sphere is S_1 and the curved surface area of a cylinder enclosing it is S_2. $S_1 . S_2$ will be equal to
(a) S_1 (b) $2S_2$

(c) $\dfrac{S_2}{2}$ (d) None of these

13. Which of the following elements substitutes hydrogen from dilute acids?
(a) Aluminium   (b) Iron
(c) Gold   (d) Copper

14. The energy of a particle moving at 5m/sec is 125 joule. The mass of particle is
(a) 4 kg   (b) 6 kg
(c) 10 kg   (d) 25 kg

15. Ashok buys a car at 20% discount of the price and sells it at 20% higher price. His percentage gain is

(a) $66\dfrac{2}{3}\%$ (b) 50%

(c) 20%   (d) 40%

16. A 150 m long train is moving at 90kmph. How much time will it take in crossing the railway signal?
(a) 60 sec.   (b) 6 sec.
(c) 8 sec.   (d) 10 sec.

17. By which constitutional amendment ten fundamental duties were included in the constitution?
(a) 24th   (b) 38th
(c) 42nd   (d) 44th

18. Who founded the Satya Shodhak Samaj in 1873?
(a) Shivanath Shastri   (b) Gopal Krishna Gokhale
(c) Jotiba Phule   (d) None of these

19. The Right to constitutional Remedies has been enshrined in the Article – of the constitution.
(a) 30   (b) 31
(c) 35   (d) 32

20. Which of the following state's boundary does not touch Myanmar?
(a) Maniput   (b) Assam
(c) Arunachal Pradesh   (d) Meghalaya

21. Gold dissolves in
    (a) Hydrogen
    (b) Nitric acid
    (c) Aqua ragia
    (d) Acetic acid

22. In the following figure 'O' is the centre of circle and $\angle BAC = n^0$, $\angle OCB = m^0$. Then :

    (a) $m + n = 90^0$
    `(b) $m + n = 180^0$
    (c) $m + n = 120^0$
    (d) $m + n = 150^0$

23. A manufacturer sells an article to a wholesale dealer at a profit of 20% and the wholesale dealer sells it to a retail merchant at a loss of 5%. Find the resultant loss or profit.
    (a) 14% loss
    (b) 14% gain
    (c) 12% gain
    (d) 12% loss

24. A car traveling at speed of 40 km/hr can complete a journey in 9 hours. How long will it take to travel the same distance at 60 km/hr?
    (a) 6 hrs
    (b) 3 hrs
    (c) 4 hrs
    (d) $4 \frac{1}{2}$ hrs

25. A mixture of 45 litres of spirit and water contains 20% of water in it. How much water must be added to it to make the water 25% in new mixture?
    (a) 5 litres
    (b) 4 litres
    (c) 3 litres
    (d) 6 litres

26. Find the least number which is exactly divisible by 32, 36, 45, 60, 80.
    (a) 1440
    (b) 1400
    (c) 1380
    (d) 1360

27. The atomic number of an element is 11 and the mass number is 23. The respective number of electrons, protons and neutrons is this atom will be:
    (a) 11, 11, 12
    (b) 11, 12, 11
    (c) 12, 11, 11
    (d) 23, 11, 23

28. If half life of a radioactive matter is 1000 years, the time required for total decay of matter will be
    (a) 1000 years
    (b) 2000 years
    (c) 3000 years
    (d) None of these

29. Which of the following is not a noble gas?
    (a) Helium
    (b) Xenon
    (c) Radium
    (d) Radon

30. In electrovalency:
    (a) Molecules lose electron forming atoms
    (b) Molecules gain electrons forming atoms
    (c) Atoms share electrons
    (d) Atoms lose or gain electron forming tons

31. Which of the following graphs represents effect of temperature on reaction rate for enzyme catalysed reaction?

(a)   (b)   (c)   (d)

32. Which of the following reactions involves the combination of two elements?
   (a) $CaO + CO_2 \rightarrow CaCO_3$
   (b) $4Na + O_2 \rightarrow 2Na_2O$
   (c) $SO_2 + O\frac{1}{2}_2 \rightarrow SO_3$
   (d) $NH_3 + HCl \rightarrow NH_4Cl$

33. The first man-made synthetic ligre is:
   (a) Polyester (Terelyne)
   (b) Neopren
   (c) Nylon
   (d) Polythene

34. Which of the substance is present in photochromatic glass?
   (a) PbO
   (b) Cr_2O_3
   (c) Borax
   (d) Silver Bromide

35. Which of the following vitamins is helpful in coagulation of blood?
   (a) C
   (b) D
   (c) E
   (d) K

36. Muscle fatigue occurs due to accumulation of:
   (a) Pyruvic Acid
   (b) Lactic Acid
   (c) Oxaloacetic Acid
   (d) Uric Acid

37. Anthrax is a serious disease of:
   (a) Cattle
   (b) Poultry
   (c) Fishes
   (d) All of these

38. Excessive secretion from the pituitary gland in children results in:
   (a) dwarfism
   (b) gigantism
   (c) weakening of bones
   (d) None of these

39. If DEEP = 120 and HOPE = 176, then REVIVE = ?
   (a) 160
   (b) 150
   (c) 64
   (d) 364

40. Find the missing number of series : 18, 30, 48, 72, 96, ?
   (a) 106
   (b) 115
   (c) 120
   (d) 96

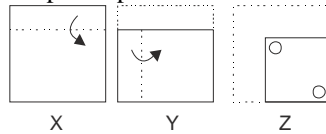41. 'Win' is related to 'Competition' in same way as 'Invention' is related to:
   (a) Discovery
   (b) Experiment
   (c) Laboratory
   (d) Product

42. A, B, C, D, E and F are six persons traveling together in a boat. Three of them B, C and E are women and rest are men, A, B, C and E are all vegetarians and others are nonvegetarians. Only B, E and F know the swimming.
    The nonvegetarian male who does not know swimming is:
    (a) D   (b) F
    (c) A   (d) E

43. Following figures 'X', 'Y' and 'Z' show sequence of folding paper and figure 'Z' shows also the manner in which the paper has been punched. Choose from the answer figure how paper will look in opened position?

    Answer figures :

    (a)   (b)

    (c)   (d)

44. Pointing to a photograph a woman tells pramod. "I am daughter of this lady and her son is your maternal uncle." How is Pramod's father related to the woman?
    (a) Husband   (b) Brother-in-law
    (c) Either (1) or (2)   (d) Neither (1) nor (2)

45. There are group of statements indicated below followed by some conclusions. Choose the conclusion which logically follows from given statements?
    Statements :
    (i) I watch TV only if I am bored.
    (ii) I am never bored when I have my brother's company.
    (iii) Whenever I go to the theatre I take my brother along.
    Conclusions :
    (a) If I am bored I seek my brother's company.
    (b) If I am not bored I don't watch TV.
    (c) If I am bored I watch TV.
    (d) If I am not with my brother I watch TV.

46. The Italian traveler who left very praiseworthy account of Vijayanager Empire was:
    (a) E. Barbosa   (b) Manucci
    (c) Marco Polo   (d) Nicolo Conti

47. Chandra Gupta Vikramaditya was the :
    (a) Son of Chandra Gupta I
    (b) Father of Skanda Gupta
    (c) Son of Samudra Gupta
    (d) Grandfather of Kumar Gupta I

48. Chattrapati Shivajee died in the year :
    (a) 1680 A.D.   (b) 1666 A.D.
    (c) 1687 A.D.   (d) 1689 A.D.

49. Who was the Hindu King shown playing Veena on the ancient coins?
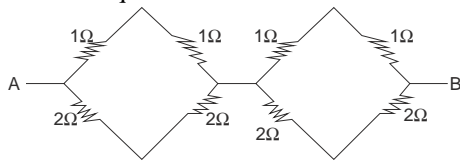   (a) Shivajee   (b) Vikramaditya
    (c) Samudra Gupta   (d) Ashoka

50. What was unique to Harappan civilization in comparison to Egyptian and Mesopotamian Civilization?
    (a) Pictographic script   (b) Temples
    (c) Rectangular Town Planning   (d) Drainage system

51. The Ryotwari settlement was introduced by British in:
    (a) Bengal Presidency only   (b) Bombay Presidency only
    (c) Madras Presidency only   (d) Bombay and Madras Presidency

52. Where did Mahatma Gandhi first try the weapon of 'Satyagraha'?
    (a) Champaran   (b) Ahmedabad Mill Strike
    (c) Dandi   (d) South Africa

53. Which pair threw a bomb at carriage that they believed was occupied by Kingsford, the unpopular Judge at Muzaffarpur?
    (a) Ram Prasad Bismil, Surya Sen (1906)
    (b) Khudi Ram Bose, Prafulla Chaki (1908)
    (c) Jatindra Nath Das, Ashfaqullah Khan (1910)
    (d) None of these

54. Which one of the following was not a President of Indian National Congress?
    (a) Sir William Wedderburn   (b) Lal Bahadur Shastri
    (c) Purushottam Das Tandon   (d) None of these

55. Which of the following movements was launched along with Khilafat Movement?
    (a) Non-Cooperation Movement   (b) Civil Disobedience Movement
    (c) Home Rule Movement   (d) Swadeshi Movement

56. Match the method of protest against the British with its propounder:
    (1) Method of direct action
    (2) Non-cooperation means
    (3) Method of petitions and resolutions
    (4) Acts of courage to rouse the mass revolt by masses

    (a) Gokhale   (b) Bhagat Singh
    (c) Tilak   (d) Gandhiji

	(1)	(2)	(3)	(4)
(a)	3	4	1	2
(b)	2	4	1	3
(c)	4	2	3	1
(d)	3	4	2	1

57. 'Kesari' was:
    (a) An organization for social reforms started by Tilak.
    (b) An English language paper owned by S.N.Banerjee.
    (c) A Marathi Newspaper.
    (d) None of these.

58. The main weakness of revolt of 1857 was lack of:
    (a) External help   (b) Discipline among rebel soliders
    (c) Modern weapons   (d) United and coordinated efforts by rebels

59. Of the following who is credited for the unification of India after independence?
    (a) Vallabh Bhai Patel   (b) JAwahar Lal Nehru

(c) C. Rajgopalachari   (d) Mahatma Gandhi

60. Amnesty International won Nobel Prize for peace in:
(a) 1971   (b) 1977
(c) 1984   (d) 1987

61. 'Rajtarangini' has been written by:
(a) Jayadev   (b) Vidyapati
(c) Kalhana   (d) Chandabardai

62. Who was the first women Chief Minister of India?
(a) Nandini Satpathi   (b) Sashikala Kodokar
(c) Vijay Laxmi Pandit   (d) Sucheta Kriplani

63. When India got independence the Prime Minister of England was:
(a) Winston Churchiil   (b) Clement R. Atice
(c) Neville Chamberlain   (d) None of these

64. Recently 'Abu-Ghraib' was very much in news which is?
(a) A dreaded terrorist   (b) A sunken passenger ship
(c) A character in art movies   (d) A jail for prisoner of war

65. Which region is famous for Jhoomar Dance?
(a) Nagaland   (b) Chhattisgarh
(c) Chhota Nagpur   (d) Maharashtra

66. Ustad Vilayat Khan is associated with:
(a) Veena   (b) Sitar
(c) Sarod   (d) Violin

67. Which among the following is first indigenously built missile?
(a) Agni   (b) Prithvi
(c) Akash   (d) None of these

68. Present day name of 'Siam' is:
(a) Thailand   (b) Malaysia
(c) Indonesia   (d) Mali

69. Which thermometer is used to measure the temperature above 1500^0C?
(a) Pyrometer
(b) Thermocouple Thermometer
(c) Platinum Resistance Thermometer
(d) All of these

70. A motion of no confidence against the council of ministers can be moved in Lok Sabha if it is supported by at least:
(a) 50 members   (b) 55 members
(c) 100 members   (d) One-fifth of total number

71. The function of the Pro-Tem Speaker is to:
(a) conduct the proceedings of House in absence of Speaker and Deputy speaker
(b) officiate as Speaker when the Speaker is unlikely to be elected
(c) swear-in members and hold charge till a regular Speaker is elected
(d) check if the election certificates of the members are in order

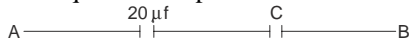72. The Comptroller and Auditor General acts as:

(a) The guardian of peoples liberties
(b) The guardian of public money
(c) The chief financial adviser of govt. of India
(d) All of the above

73. 'Vote on Account' is a grant voted/passed by Parliament:
(a) After the budget and grant has been voted/passed by Lok Sabha
(b) Grant to manage the administrative work in interim period till budget and grant for financial year are passed
(c) Passage of account of expenditure actually done during last year
(d) approval of account of Public Undertakings

74. The defeat of government in Rajya Sabha leads to:
(a) its dismissal by the President
(b) Resignation by Prime Minister
(c) Advice by President to Prime Minister to relinquish office
(d) None of these

75. The Parliament or a State Legislature can declare a seat vacant if a member absents himself without permission from the sessions for:
(a) 30 days   (b) 60 days
(c) 90 days   (d) doesn't has this power

76. Which State is not one of major producers of bananas?
(a) Gujarat   (b) Tamil NAdu
(c) Bihar   (d) Kerala

77. Of the following, which project is not primarily a hydro-electric project?
(a) Mettur Project, Tamil Nadu   (b) Rana Pratap Sagar Project, Rajasthan
(c) Kakarpara Project, West Bengal   (d) None of these

78. From origin to delta, the Brahmaputra traverses:
(a) Tibet, China, Myanmar   (b) Bhutan, Nepal, India
(c) China, India, Bangladesh   (d) India, Bangladesh, Myanmar

79. Where was first Bio-reserve established in India?
(a) Nokrek   (b) Kanha
(c) Nilgiris   (d) Periyar

80. What is the term used to describe cultivation on the hill slopes with small patches of land in descending order?
(a) Truck farming   (b) Slope cultivation
(c) Hill farming   (d) Contour farming

81. Two spheres of same size are made of same matel, but one is hollow and the other is solid. Both are heated to the same temperature. then
(a) Hollow sphere will expand more than the solid one
(b) Solid sphere will expand less than the hollow one
(c) Both the spheres will expand equally
(d) Only solid sphere will expand

82. The ratio of the wavelengths of first harmonic : second harmonic : third harmonic in a stretched string is
(a) 1 : 2 : 3   (b) 6 : 3 : 2
(c) 2 : 3 : 6   (d) 3 : 2 : 1

83. Find the equivalent resistance between A and B.

(a) $\dfrac{8}{3}\Omega$ (b) $\dfrac{4}{3}\Omega$

(c) $\dfrac{2}{3}\Omega$ (d) $\dfrac{16}{3}\Omega$

84. The equivalent capacitance of a circuit between A and B is 15 μF. Find the capacitance of 'C'.

(a) 35 μF   (b) 60 μF
(c) 20 μF   (d) None of these

85. The electrical resistance of a material is directly proportional to its
(a) Length   (b) Cross sectional area
(c) Current   (d) All the above

86. The value of $\dfrac{\cos 11^{0} + \sin 11^{0}}{\cos 11^{0} - \sin 11^{0}}$ is

(a) $\tan 56^{0}$ (b) $\tan 11^{0}$
(c) $\tan 22^{0}$ (d) $\tan 40^{0}$

87. The value of $(0.03125)^{\frac{-2}{5}}$ is
(a) 31.25   (b) 12
(c) 9   (d) 4

88. For the equation $ax^{2} - 2\sqrt{5}x + 4 = 0$ having equal roots, the value of 'a' is

(a) $\dfrac{5}{3}$ (b) $\dfrac{4}{5}$

(c) $\dfrac{-5}{4}$ (d) $\dfrac{5}{4}$

89. Kilo watt hour is the unit of
(a) Force   (b) Power
(c) Time   (d) Energy

90. If $n(C \cup T) = 70$, $n(C) = 37$, $n(T) = 45$, then $n(C \cap T) = ?$
(a) 8   (b) 12
(c) 82   (d) 35

91. In how many way 4 boys and 3 girls can be seated in a row such that two girls never sit together?
(a) 1440   (b) 1600
(c) 60   (d) 24

92. Three dice are thrown simultaneously. What is the probability that numbers appearing on each of them will be odd?

(a) $\dfrac{1}{12}$ (b) $\dfrac{1}{6}$

(c) $\dfrac{1}{8}$ (d) $\dfrac{1}{4}$

93. The average of twenty numbers is 18. The average of first ten numbers is 19 and that of last nine numbers is 18. What is the 11th number?

(a) 15   (b) 16

(c) 8   (d) 20

94. Tamil Nadu gets winter rain due to

(a) South west monsoon   (b) North east monsoon

(c) Eastern currents   (d) None of these

95. After textile industry, the second most commonly found industry is

(a) Sugar   (b) Jute

(c) Cement   (d) None of these

96. The north flowing tributary of the Ganges is

(a) Kosi   (b) Ghaghara

(c) Sone   (d) Gandak

97. Law of Natural Selection is related to

(a) Dalton   (b) Darwin

(c) Kepler   (d) Mendel

98. During the reign of Harsh Vardhan which city in the northern India was important?

(a) Ujjain   (b) Hastinapur

(c) Kannauj   (d) Pataliputra

99. In a Geometric series the third term is 24 and the sixth term is 192. The 10th term of the series is

(a) 3072   (b) 1536

(c) 6144   (d) None of these

100. The average weight of men is 46 kg and that of women is 40 kg. The number of men is

(a) 65   (b) 60

(c) 55   (d) 52

ANSWERS

1.	(d)	17.	(c)	33.	(c)	49.	(c)	65.	(c)
2.	(c)	18.	(c)	34.	(d)	50.	(c)	66.	(b)
3.	(a)	19.	(d)	35.	(d)	51.	(d)	67.	(b)
4.	(d)	20.	(d)	36.	(a)	52.	(d)	68.	(a)
5.	(d)	21.	(c)	37.	(d)	53.	(b)	69.	(d)
6.	(c)	22.	(a)	38.	(b)	54.	(b)	70.	(d)
7.	(a)	23.	(b)	39.	(d)	55.	(a)	71.	(c)
8.	(a)	24.	(a)	40.	(d)	56.	(a)	72.	(b)
9.	(b)	25.	(c)	41.	(b)	57.	(c)	73.	(b)
10.	(a)	26.	(a)	42.	(a)	58.	(c)	74.	(d)
11.	(c)	27.	(a)	43.	(a)	59.	(a)	75.	(b)
12.	(d)	28.	(d)	44.	(a)	60.	(b)	76.	(a)
13.	(a)	29.	(c)	45.	(b)	61.	(c)	77.	(c)
14.	(c)	30.	(d)	46.	(d)	62.	(d)	78.	(c)
15.	(b)	31.	(c)	47.	(c)	63.	(b)	79.	(a)
16.	(b)	32.	(b)	48.	(a)	64.	(d)	80.	(d)

81. (c)	85. (a)	89. (d)	93. (c)	97. (b)
82. (b)	86. (a)	90. (b)	94. (b)	98. (c)
83. (a)	87. (d)	91. (a)	95. (a)	99. (a)
84. (b)	88. (d)	92. (a)	96. (c)	100. (b)