107/2014

1. At the surface of earth the temperature is low and the metamorphism is brought by directed pressure only. Such metamorphism is known as :
   (A) Thermal metamorphism
   (B) Cataclastic metamorphism
   (C) Dynamo-Thermal metamorphism
   (D) Plutonic metamorphism

2. A brick moulded with a double bullnose on end is known as :
   (A) Bullnose Brick (B) Channel Brick
   (C) Coping Brick (D) Cow-nose Brick

3. When water is added to Quicklime it Cracks, swells and falls into a powdery form. This process is called :
   (A) Calcination (B) Hydraulicity (C) Slaking (D) Setting

4. The Ingredient which imparts Quick setting property to the cement is :
   (A) Silica (B) Calcium sulphate
   (C) Magnesia (D) Alumina

5. A piece of timber has distorted spirally along its length is known as :
   (A) Warp (B) Collapse (C) Twist (D) Split

6. A material which can be beaten into thin sheets or leaves is known as :
   (A) Soft Material (B) Malleable Material
   (C) Ductile Material (D) Brittle Material

7. The science dealing with the effect of very low temperatures on the properties of matters is known as :
   (A) Crygonics (B) Physionics (C) Calorionics (D) Airgonics

8. The moulding compounds which are added to dissolve the plasticizer in plastic industry is called :
   (A) Pigments (B) Lubricants (C) Solvents (D) Catalyst

9. The vertical joints separating the bricks in either length or cross directions are known as :
(A) Toothing (B) Perpends (C) Arrises (D) Racking Back

10. A junction in masonry which is formed when two walls meet each other at an angle other than a right angle without making a quoin is called :
(A) Raking Bond (B) Cross-Junction
(C) Squint Junction (D) Dutch Bond

11. Name the type of formwork, which are raised while the concrete is in a plastic state :
(A) Steel form (B) Timber form (C) Trestle (D) Slip forms

12. Which of the following is an "event oriented" scientific management technique ?
(A) PERT (B) CPM (C) TOPS (D) PEP

13. An order in writing is given by the competent authority to the contractor to take possession of the site and commence the work is :
(A) Execution of Agreement (B) Scrutiny of tenders
(C) Work order (D) Acceptance of tender

14. The Individual who offers his labour is called :
(A) Manual labour (B) Labourer (C) Contract labour (D) Indirect labour

15. In the settlement of construction disputes a third person who is the decision maker, after hearing the arguments of both parties is called :
(A) Administrator (B) Receiver (C) Magistrate (D) Arbitrator

16. In an ecosystem the heterotropic plants are known as :
(A) decomposers (B) herbivores (C) carnivores (D) phagotrophes

17. In order to setting a perpendicular offset to a chain line, the instrument used is :
(A) Clinometer (B) Planimeter (C) Pentagraph (D) Optical square

18. The inclination of a compass needle with horizontal position is called :
(A) Declination (B) Dip (C) Local attraction (D) Deflection

19. The relative error of closure in theodolite traversing is :
(A) Ratio of sum of Departures to sum of Lattitudes
(B) Ratio of sum of Lattitudes to sum of Departures
(C) Ratio of error of Closure to total Perimeter
(D) Ratio of error of Closure to total Latitude

20. The type of curve which joins a straight line and another curve by changing the radius gradually is called :
(A) Simple curve (B) Reverse curve (C) Vertical curve (D) Transition curve

21. Works constructed on a river for supply of water to a canal taking off on its upstream side for irrigation purposes are called :
(A) River training works (B) Head works
(C) Drainage works (D) Protective works

22. An arrangement to dispose off surplus water in a reservoir above FRL is called :
(A) Drainage way (B) Sluices (C) Spill way (D) Drain holes

23. Gauge pressure at a point is equal to :
(A) Absolute pressure plus atmospheric pressure
(B) Absolute pressure minus atmospheric pressure
(C) Vacuum pressure plus absolute pressure
(D) Vacuum pressure minus absolute pressure

24. Pitot tube is used for the measurement of :
(A) Pressure (B) Flow
(C) Discharge (D) Velocity at a point

25. Mouth pieces are used to measure :
(A) Velocity (B) Pressure (C) Viscosity (D) Rate of flow

26. Which of the following is an impulse turbine ?
(A) Francis turbine (B) Kaplan turbine (C) Pelton wheel (D) Hydraulic ram

27. Which of the law is applicable for sedimentation of discrete particle in plain sedimentation ?
(A) Stoke's law (B) Kirchoff's law (C) Basin's law (D) Chazy's law

28. The application of chlorine beyond the stage of break point is known as :

(A) Post chlorination (B) Double chlorination

(C) Super chlorination (D) De-chlorination

29. The lowest level of a sewer is known as :

(A) Sewerage (B) Invert (C) Refuse (D) Sullage

30. A depressed or bent sanitary fitting which always remains full of water is called :

(A) Tap (B) Bibcock (C) Trap (D) Cowl

31. The land width acquired along the alignment of road is termed as :

(A) Right of way (B) Carriage way

(C) Permanent way (D) Width of carriage way

32. The track assembly used for diverting the trains from one track to another, in which the track from which train diverts is known as main line and the branch line is known as :

(A) Crossing (B) Cross-over (C) Turn out (D) Points

33. When bulk density 'γ' and water content 'ω' are known, then the dry density 'γ_d' of a soil is found out by :

(A) $\gamma_d = \frac{\gamma}{1-\omega}$ (B) $\gamma_d = \frac{\gamma}{\omega} + 1$ (C) $\gamma_d = \frac{\gamma}{\omega} - 1$ (D) $\gamma_d = \frac{\gamma}{1+\omega}$

34. The centre of gravity of a triangular section lies on :

(A) $\frac{1}{3}^{rd}$ of height from Base (B) $\frac{1}{3}^{rd}$ of height from Vertex

(C) $\frac{2}{3}$ of height from Base (D) $\frac{1}{2}$ of height

35. The Polar moment of inertia of a circular section of diameter 'd' is :

(A) $\frac{\pi D^4}{64}$ (B) $\frac{\pi D^3}{32}$ (C) $\frac{\pi D^4}{32}$ (D) $\frac{\pi D^3}{64}$

36. Find the temperature stress developed on a rod of 20 m long when the strain is controlled for $\frac{1}{4000}$. The value of $E = 2 \times 10^5$ N/mm^2.

(A) 48 N/mm^2 (B) 55 N/mm^2 (C) 50 N/mm^2 (D) 1000 N/mm^2

37. The central deflection of a simply supported beam carrying a UD load W/m for a span of 'l' is :

(A) $\frac{Wl^4}{48EI}$ (B) $\frac{Wl^4}{384EI}$ (C) $\frac{5Wl^4}{384EI}$ (D) $\frac{6Wl^3}{384EI}$

38. The effective span to depth ratio of a continuous beam as per IS 456/2000 :

(A) 20 (B) 26 (C) 35 (D) 7

39. In a doubly reinforced beam :

(A) The reinforcement is provided in two layers in Tension Zone

(B) The number of main reinforcement is not greater than two

(C) The compression zone also reinforced and steel is also bearing compression

(D) No Stirrups is used

40. The minimum cover clearance required for longitudinal reinforcement bar in a column, whose minimum dimension is greater than 200 mm and bar diameter is greater than 12 mm is :

(A) 40 mm (B) 25 mm

(C) $\left(\frac{1}{2}\text{ diameter of bar} + 25\text{ mm}\right)$ (D) 50 mm

41. The value of 'x' if $\begin{vmatrix} 3x & -4 \\ -2 & 2 \end{vmatrix} = 0$ is :

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

42. The element in the 2nd row and 3rd column of inverse of matrix $A = \begin{vmatrix} 1 & 2 & -5 \\ -2 & -3 & 4 \\ 3 & -1 & 7 \end{vmatrix}$ is :

(A) $\frac{-3}{10}$ (B) $\frac{3}{10}$ (C) $\frac{7}{20}$ (D) $\frac{-7}{20}$

43. The coefficient of 'x' in the expansion of $\left(x^2 + \frac{2}{x}\right)^5$ is :

(A) 40 (B) 60 (C) 70 (D) 80

44. The value of $\cos 330° + \tan 135°$ is :

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

45. If $\tan A = \frac{7}{9}$, $\tan B = \frac{1}{8}$, the value of $A + B$ is :

(A) 30° (B) 60° (C) 90° (D) 45°

46. From the top of a light house 100 m high, the angle of depression of two boats on the sea level are θ_1 and θ_2 where $\tan\theta_1 = \frac{1}{2}$ and $\tan\theta_2 = \frac{4}{3}$. The distance between the boats is :

(A) 75 m (B) 125 m (C) 100 m (D) 150 m

47. The value of $\frac{\sin 2A - \sin 2B}{\cos 2A - \cos 2B}$ is :

(A) $-\cot(A+B)$ (B) $\cot(A+B)$ (C) $\tan(A+B)$ (D) $-\tan(A+B)$

48. The slope of line joining the points $(2, -5)$ and $(5, 4)$ is :

(A) $\frac{1}{3}$ (B) $\frac{1}{5}$ (C) 3 (D) 5

49. The points A(6, −4), B(3, −7) and C(5, 6) are three vertices of a parallelogram of which AB and AC are sides, th fourth vertex D is :

(A) (3, 4) (B) (8, 9) (C) (2, 3) (D) (2, 5)

50. Let P be the point $(-2, 4)$, the distance between the point P and foot of perpendicular from P on the line $x - 3y + 4 = 0$ is :

(A) $\sqrt{8}$ (B) $\sqrt{12}$ (C) 3 (D) $\sqrt{10}$

51. $\lim_{x \to -2} x^2 - 2$ is :

(A) -6 (B) 2 (C) 0 (D) 4

52. The value of 'k' if $f(x) = \begin{cases} \frac{x^3 - 27}{x^5 - 243} & \text{if } x \neq 3 \\ k & \text{if } x = 3 \end{cases}$ is continuous at $x = 3$ is :

(A) $\frac{1}{15}$ (B) 0 (C) $\frac{1}{9}$ (D) $\frac{3}{5}$

53. A particle is projected vertically upwards. Its height 'h' and time 't' are connected by $h = 60t - 10t^2$. The greatest height attained is :

(A) 90 (B) 70 (C) 100 (D) 80

54. The area of a circular plate increases at the rate of 16 sq.cm/min when heated. The rate at which the radius is increasing when radius is 4 cm is :

(A) $\frac{3}{\pi}$ cm/min (B) $\frac{1}{\pi}$ cm/min (C) $\frac{4}{\pi}$ cm/min (D) $\frac{2}{\pi}$ cm/min

55. An open box is to be made out of a square sheet of side '6' cm by cutting off equal squares at each corner and turning up the sides. The side length of the square should be cut in order that the volume of box may be maximum is :

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

56. The $\int e^{2x}\, dx$ is :

(A) $2e^{2x} + c$ (B) $\frac{e^{2x}}{2} + c$ (C) $e^{2x} + c$ (D) $2e^x + c$

57. The value of $\int_0^{\pi/2} \sqrt{1 + \sin 2x}\, dx$ is :

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

58. The value of $\int_0^2 x e^x dx$ is :

(A) $2e^2$ (B) e^2+1 (C) e^2-1 (D) $2e^2-1$

59. The area included between curves $y^2=4x$ and $x^2=4y$ is :

(A) $\frac{32}{3}$ (B) 10 (C) $\frac{5}{4}$ (D) $\frac{16}{3}$

60. The solution of $\frac{dy}{dx}+\frac{\sqrt{1-y^2}}{\sqrt{1-x^2}}=0$ is :

(A) $\sin^{-1}x+\sin^{-1}y=c$ (B) $\sin^{-1}x-\sin^{-1}y=c$

(C) $\sqrt{1-x^2}+\sqrt{1-y^2}=c$ (D) $\sqrt{1-x^2}-\sqrt{1-y^2}=c$

61. The hardness of water is due to the presence of :

(A) Magnesium carbonate (B) Magnesium sulphide

(C) Magnesium sulphate (D) Magnesium nitrate

62. The pH of a 0.005 M solution of Sulphuric acid is :

(A) 1 (B) 2 (C) 3 (D) 5

63. The volume of water that should be added to 100 ml. of 0.5 normal Nitric acid to make it exactly decinormal is :

(A) 1000 ml (B) 600 ml (C) 500 ml (D) 400 ml

64. The compound formed by combining trivalent anion A and divalent cation B is :

(A) B_3A_2 (B) A_2B_3 (C) A_3B_2 (D) B_2A_3

65. The monomers of Dacron are :

(A) Adipic acid and Hexamethylene diamine

(B) Terephthalic acid and Ethylene glycol

(C) Phenol and Formaldehyde

(D) Isoprene

66. The metal which can displace Zinc from Zinc sulphate solution is:
(A) Copper (B) Iron (C) Magnesium (D) All of these

67. Which of the following is not present in varnish ?
(A) Pigment (B) Drying oil
(C) Antiskinning agent (D) Thinner

68. Gel is a colloidal solution of :
(A) Solid in Liquid (B) Liquid in Liquid (C) Gas in Liquid (D) Liquid in Solid

69. Example for double base propellant is :
(A) Polybutadiene (B) Nitromethane (C) Nitroglycerine (D) Hydrazine

70. The branch of chemistry which is used to reduce or eliminate the production of hazardous substances from reactions into environment is :
(A) Environmental chemistry (B) Green chemistry
(C) Pollution chemistry (D) Analytical chemistry

71. LASER stands for Light Amplification by _____ of Radiation.
(A) Spontaneous emission (B) Stimulated emission
(C) Spontaneous absorption (D) Stimulated absorption

72. The output of an AND gate is high only when :
(A) Both inputs are high
(B) Both inputs are low
(C) One input is high and other input is low
(D) None of the above

73. Physical quantities having both magnitude and direction are called :
(A) Standard (B) Scalar (C) Vector (D) Both (B) and (C)

74. Within in the elastic limit Stress/Strain = a constant is known as :
(A) Pascal's law (B) Newton's law (C) Faradays law (D) Hooke's law

75. When the object is placed at F of a convex lens image will be formed _____on other side.

(A) at F (B) Between F and 2F

(C) at 2F (D) ay Infinity

76. When the mass of a bob in a simple pendulum is doubled its period ?

(A) Remains unchanged (B) Doubles

(C) Becomes four times (D) Halved

77. When light falls on certain metals electrons are emitted from its surface due to ?

(A) Seeback effect (B) Photoelectric effect

(C) Thomson effect (D) Peltier effect

78. Liquid drops are spherical in shape because of :

(A) Viscocity (B) Surface Tension

(C) Elasticity (D) None of the above

79. If a metal wire of length L and resistance R is stretched to 2L. The new resistance becomes :

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

80. SI unit of pressure :

(A) Newton (B) Joule (C) Second (D) Pascal

81. The title Punjab Kesari was conferred on :

(A) Ranjith Singh (B) Sardar Baldev Singh

(C) Bhagath Singh (D) Lala Lajpath Rai

82. The first British Viceroy in India was :

(A) Lord Canning (B) Lord Curzon (C) Lord Rippon (D) Lord Delhousie

83. Which ruler of Cochin started Thrissur pooram ?

(A) Marthanda Varma (B) Swathi Thirunal

(C) Shakthan Thampuran (D) Chithira Thirunal

84. Which is the first bank in Kerala ?

(A) Muthoot Bank (B) State Bank of Travancore

(C) Catholic Syrian Bank (D) Nedungadi Bank

85. Indian Constitution was amended for the first time in :

(A) 1950 (B) 1951 (C) 1952 (D) 1953

86. Who is known as Kerala Valmiki ?

(A) Vallathole Narayana Menon (B) Ulloor S. Parameswara Aiyyar

(C) Nalappatt Narayana Menon (D) Kumaranasan

87. The first Malayali who won Padma Shri, Padma Bhushan and Padma Vibhushan awards :

(A) Joseph Mundasseri (B) Cartoonist Sankar

(C) Sardar K.M. Panikkar (D) E.M.S. Nampoothirippad

88. The year in which New Delhi became the Capital of India :

(A) 1947 (B) 1951 (C) 1921 (D) 1911

89. Thermal Electricity Plant in Kerala is at :

(A) Pallivasal (B) Koodamkulam (C) Kayamkulam (D) Brahmakulam

90. The highest civilian award of India is :

(A) Paramveer Chakra (B) Bharath Rathna

(C) Padma Bhushan (D) Padma Vibhushan

91. Which day is celebrated as National Voters Day ?

(A) December 20 (B) November 25

(C) January 25 (D) October 24

92. Who is known as Frontier Gandhi ?

(A) Khan Abdul Khafer Khan (B) Mohemed Ali Jinnah

(C) Zulfikar Ali Bhuto (D) Abul Kalam Azad

93. Silent Valley is in :
(A) Wayanad (B) Malappuram (C) Kozhikode (D) Palakkad

94. Who was the President of Indian National Congress when India become independent ?
(A) Dr. Rajendra Prasad (B) Sarojini Naidu
(C) J.B. Kripalani (D) Dr. Radhakrishnan

95. Who is the author of 'Hind Swaraj' ?
(A) Mahatma Gandhi (B) Jawahar Lal Nehru
(C) M.N. Roy (D) K.N. Raj

96. The first Secretary General of UNO :
(A) U. Thant (B) Koffi Annan
(C) Trigveyli (D) Javer Perez Decuellar

97. Rajatharangini was written by :
(A) Bilhana (B) Kalhana (C) Bana (D) Koutilya

98. The olden name of Patna is :
(A) Pataliputhra (B) Ujjain (C) Banaras (D) Indraprastha

99. The man named as 'Father of Indian Archaeology' is :
(A) Max Muller (B) Alexander Cunningham
(C) William Jhones (D) Charles Wilkines

100. Who wrote the book Kristhumatha Chedanam ?
(A) Kumara Guru (B) Sree Narayana Guru
(C) Vaikunta Swamikal (D) Chattampi Swamikal

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