

RED-SET

14

VL

SECTION - I
ENGLISH

1. Which Junction Transistor is preferred for high input and low output impedances ?
☒ (A) Common Collector (B) Common Base
(C) Common Emitter (D) Any one of these
2. Complete the following series :
0, 6, 24, 60, 120, 210, ____?
☒ (A) 336 (B) 240 (C) 410 (D) 360
3. Who is the winner of Men's Singles Title in Wimbledon, 2014 in Tennis ?
(A) Roger Federer (B) Rafael Nadal (C) Marin Cilic ☒ (D) Novak Djokovic
4. Which one of the following contains Human body's thermostat ?
(A) Pineal (B) Pituitary (C) Thyroid ☒ (D) Hypothalamus
5. Spot welding is an example of _____ welding.
(A) Gas ☒ (B) Resistance
(C) Arc (D) Tungsten Inert Gas
6. In Orthographic projection, visual rays or lines of sight for a given view are _____ to each other.
☒ (A) Parallel (B) Normal (C) Oblique (D) None of these
7. Which one of the following problems is **not** created by Noise Pollution ?
☒ (A) Diarrhoea (B) Hypertension (C) Deafness (D) Irritation
8. Which of these will **not** be oxidised by Ozone ?
(A) KI (B) FeSO_4 ☒ (C) KMnO_4 (D) K_2MnO_4
9. If the volume of a Cube is 729 cm^3 , then the total surface area of this Cube will be :
(A) 81 cm^2 ☒ (B) 486 cm^2 (C) 484 cm^2 (D) 529 cm^2
10. The minimum value of input which is necessary to cause a detectable change from zero output is called :
(A) Least Count (B) Resolution (C) Drift ☒ (D) Threshold

11. The ozone layer is useful for living beings because :
(A) It serves as the source of oxygen
(B) It maintains the temperature of the earth
(C) It maintains the Nitrogen cycle of the earth
(D) It protects them from harmful ultraviolet rays of the sun
12. Which of the following is used as a moderator in nuclear reactors ?
(A) Hard water
(B) Mineral water
(C) Deionized water
(D) Heavy water
13. Stefan Boltzmann Law is applicable for Heat Transfer by :
(A) Conduction
(B) Convection
(C) Radiation
(D) All of these
14. A correct food chain is :
(A) Producers, Herbivores, Carnivores
(B) Producers, Carnivores, Herbivores
(C) Herbivores, Carnivores, Producers
(D) Herbivores, Producers, Carnivores
15. The power of a single phase AC circuit is given by :
(A) VI
(B) VI cos ϕ
(C) VI sin ϕ
(D) None of these
16. x and y can complete a work in 18 days; y and z can complete this work in 24 days; x and z can complete this work in 36 days. In how many days will x, y and z complete this work, working together ?
(A) 26 days
(B) 13 days
(C) 16 days
(D) 8 days
17. A circle will appear, on an isometric drawing as a/an _____.
(A) Parabola
(B) Ellipse
(C) Circle
(D) Cycloid
18. Who is the winner of Nobel Prize, 2014 in the field of Literature ?
(A) Philip Roth
(B) Patrick Modiano
(C) Haruki Murakami
(D) Ngugi Wa Thiong'o
19. Arrange the fractions $\frac{5}{8}$, $\frac{7}{12}$, $\frac{13}{16}$, $\frac{16}{29}$ and $\frac{3}{4}$ in ascending order of magnitude :
(A) $\frac{16}{29} < \frac{7}{12} < \frac{5}{8} < \frac{3}{4} < \frac{13}{16}$
(B) $\frac{16}{29} < \frac{5}{8} < \frac{7}{12} < \frac{13}{16} < \frac{3}{4}$
(C) $\frac{3}{4} < \frac{13}{16} < \frac{7}{12} < \frac{5}{8} < \frac{16}{29}$
(D) $\frac{3}{4} < \frac{5}{8} < \frac{7}{12} < \frac{13}{16} < \frac{16}{29}$

20. A person travels 12 km in the North direction; then 15 km in the East direction; then 15 km in the West direction and then 18 km in the South direction. How far is he from the starting point ?
☒ (A) 6 km (B) 12 km (C) 33 km (D) 60 km
21. The United Nations Day (U.N. Day) is celebrated every year on :
☒ (A) Oct. 24 (B) Nov. 6 (C) Dec. 26 (D) March 1
22. Aluminium is commonly used as conductor material in transmission lines compared to copper because :
(A) It is more conductive (B) Its tensile strength is more
☒ (C) It is costlier ☒ (D) It is cheaper and lighter
23. Complete the following given series :
6, 12, 21, 33, 48, ____?
(A) 60 (B) 57 (C) 54 ☒ (D) 66
24. In Sand Moulding, the top flask is known as :
☒ (A) Cope (B) Drag (C) Fillet (D) Check
25. Find the value of :
(51 + 52 + 53 + 54 + + 100)
☒ (A) 3775 (B) 5050 (C) 1275 (D) 2525
26. Which of the following is an SI Engine ?
(A) Diesel Engine ☒ (B) Petrol Engine (C) Gas Engine (D) None of these
27. Valence electrons in the element A are 3 and that in element B are 6. Most probable compound formed from A and B is :
(A) A_2B (B) AB_2 ☒ (C) A_2B_3 (D) A_3B_2
28. Which law of thermodynamics defines Entropy ?
(A) Zeroth (B) First ☒ (C) Second (D) Third
29. Alka is older than Mala. Gopal is older than Mala but younger than Alka. Mala is older than Ram. Who is the eldest amongst them ?
(A) Gopal (B) Mala ☒ (C) Alka (D) Ram

30. In Drawing, the surface roughness is represented by :
(A) Circles (B) Squares ☒ (C) Triangles (D) Zig - Zag lines
31. Nature's cleaners are :
(A) Producers (B) Consumers ☒ (C) Decomposers (D) Carnivores
32. With which one of the following movements is the slogan "Do or Die" associated ?
(A) Swadeshi Movement (B) Non-Cooperation Movement
(C) Civil Disobedience Movement ☒ (D) Quit India Movement
33. What does an electronic spreadsheet consist of ?
(A) Rows (B) Columns ☒ (C) Cells ☒ (D) All of the above
34. Find compound interest on ₹ 7,500 at the rate of 4% per annum for 2 years, compounded annually ?
☒ (A) ₹ 612 (B) ₹ 300 (C) ₹ 600 (D) ₹ 630
35. Who of the following is regarded as the architect of the Indian Constitution ?
(A) Pandit Nehru ☒ (B) B.R. Ambedkar
(C) Mahatma Gandhi (D) Rajendra Prasad
36. 36 men can complete a work in 18 days. In how many days will 27 men complete the same work ?
☒ (A) 24 days (B) 12 days (C) 30 days (D) 42 days
37. Choose the statement which is correct :
☒ (A) PERT is event oriented (B) PERT is not event oriented
(C) CPM is event oriented (D) CPM is not activity oriented
38. A barometer measures :
(A) Absolute pressure ☒ (B) Atmospheric pressure
(C) Gauge pressure (D) Vacuum
39. Which one of the following years was **not** a Leap year ?
☒ (A) 1900 A.D. (B) 1904 A.D. (C) 2000 A.D. (D) 1888 A.D.
40. A perfect gas at 27 °C is heated at constant pressure till its volume is doubled. The final temperature is :
(A) 54°C (B) 108°C ☒ (C) 327°C (D) 600°C

41. The present age of a father is 3 years more than three times the age of his son. After three years, father's age will be 10 years more than twice the age of the son. Find the present age of the Father.
(A) 30 years ☒ (B) 33 years (C) 36 years (D) 39 years
42. An Amplifier has a power gain of 50. This gain in dB will be :
(A) $\log 50$ ☒ (B) $10 \log 50$ (C) $100 \log 50$ (D) $50 \log 50$
43. Find the L.C.M. of $\frac{1}{3}, \frac{5}{6}, \frac{2}{9}, \frac{4}{27}$:
(A) $\frac{1}{54}$ (B) $\frac{10}{27}$ ☒ (C) $\frac{20}{3}$ (D) None of these
44. Who is the Winner of Pro Kabaddi League in 2014 ?
(A) U Mumba ☒ (B) Jaipur Pink Panthers
(C) Patna Pirates (D) Bengaluru Bulls
45. To be eligible for membership of the Lok Sabha, a person should be atleast :
(A) 18 years of age (B) 30 years of age
(C) 35 years of age ☒ (D) 25 years of age
46. The refractive index of water is $\frac{4}{3}$. What is the speed of light in water ?
☒ (A) 2.25×10^8 m/sec (B) 4×10^8 m/sec
(C) 1.5×10^8 m/sec (D) 2.67×10^8 m/sec
47. In a three-hinged arch, the Bending Moment will be zero at :
(A) Right Hinge Only (B) Left Hinge Only
(C) Both Right and Left Hinges ☒ (D) All the three Hinges
48. Manoj can complete a journey in 10 hours. He travels first half of the journey at the speed of 21 kmph and second half of the journey at the speed of 24 kmph. Find the total journey :
(A) 230 km (B) 234 km (C) 220 km ☒ (D) 224 km
49. The characteristic equation of Gases $PV = nRT$ holds good for :
(A) Monoatomic Gases (B) Diatomic Gases
☒ (C) Ideal Gases (D) Real Gases

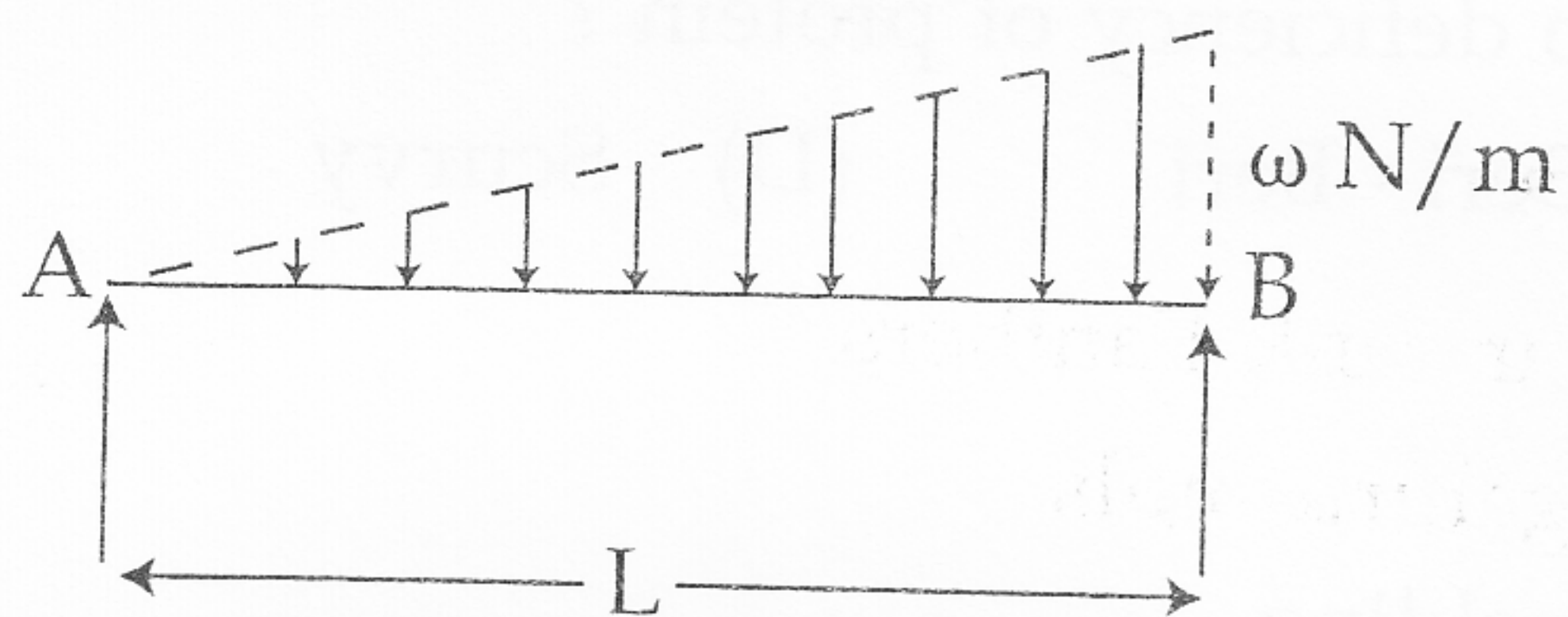
50. The value of $\sum \frac{dQ}{T}$ for an irreversible process is :

- ☒ (A) Less than zero (B) Greater than zero
(C) Equal to zero (D) Any one of these

51. If t_o , t_m and t_p are the optimistic; most likely and pessimistic time estimates of an activity respectively; then the expected time 't' of the activity will be :

- (A) $\frac{t_o + t_m + t_p}{3}$ (B) $\frac{t_o + 2t_m + t_p}{4}$ (C) $\frac{t_o + 3t_m + t_p}{5}$ ☒ (D) $\frac{t_o + 4t_m + t_p}{6}$

52. A simply supported beam carries a varying load from zero at one end to ω N/m at the other end (as under).



The length of the beam is L. The shear force will be zero at a distance 'x' from A. Find 'x' :

- (A) $\frac{L}{2}$ (B) $\frac{L}{4}$ ☒ (C) $\frac{L}{\sqrt{3}}$ (D) $\frac{L}{3}$

53. Welding Generators do have :

- (A) Delta winding (B) Wave winding
☒ (C) Lap winding (D) Duplex winding

54. To obtain the P-type semiconductor :

- (A) A pentavalent Impurity is added ☒ (B) A trivalent Impurity is added
(C) Both are added (D) None of these

55. Kunwar Singh, a prominent leader of Uprising of 1857, belonged to :

- (A) Punjab (B) Rajasthan
(C) Madhya Pradesh ☒ (D) Bihar

56. Primary Storage, in computer terminology, refers to :

- (A) Hard Disc Drive
☒ (B) Random Access Memory (RAM)
(C) Read Only Memory (ROM)
(D) The storage device where the operating system is stored

57. Palitana Temples are located near :
☒ (A) Bhavnagar, Gujarat (B) Ujjain, Madhya Pradesh
(C) Nasik, Maharashtra (D) Varanasi, Uttar Pradesh
58. Which one of the following is an advantage of Forging ?
☒ (A) Improved Physical Property (B) Close Tolerance
(C) Low Tooling Cost (D) Good Surface Finish
59. If the fundamental frequency of a pipe closed at one end and open at another end is 512 Hz. The fundamental frequency of a pipe of the same dimension but open at both ends will be :
☒ (A) 1024 Hz (B) 64 Hz (C) 256 Hz (D) 128 Hz
60. Which one of the following diseases is caused due to deficiency of protein ?
☒ (A) Kwashiorkor (B) Rickets (C) Beri - Beri (D) Scurvy
61. Filler Metal is used in :
(A) Seam welding (B) Spot welding
(C) Projection welding ☒ (D) Gas welding
62. The Air-Fuel ratio of the Petrol Engine is controlled by :
☒ (A) Carburettor (B) Injector (C) Governor (D) Fuel Pump
63. Which one of the following is generally added to Table Salt to make it flow freely in rainy season ?
☒ (A) $\text{Ca}_3(\text{PO}_4)_2$ (B) Na_3PO_4 (C) KCl (D) KI
64. What are the advantages of DC transmission system over AC transmission system ?
(A) There is no skin effect in DC system
(B) Corona limits are highest for DC circuits as compared to AC circuits
(C) DC system is economical
☒ (D) All of the above
65. The fatigue life of a part can be improved by :
(A) Electroplating (B) Polishing (C) Coating ☒ (D) Shot peening
66. Earthworm belongs to following animal phyla ?
(A) Porifera ☒ (B) Annelida (C) Mollusca (D) Arthropoda

67. The property of a soil, which permits water to percolate through it, is called :
(A) Moisture content (B) Capillarity
☒ (C) Permeability (D) None of these
68. To close a presentation and quit PowerPoint, one must click the close button on the :
(A) menu bar ☒ (B) title bar
(C) standard tool bar (D) common tasks tool bar
69. Which one of the following places was associated with the beginning of Vinoba Bhave's Bhoodan Movement ?
(A) Dandi (B) Kheda ☒ (C) Pochampalli (D) Champaran
70. Jitu Rai won Gold Medal in the recent Asian Games in the following field :
(A) Archery (B) Wrestling (C) Boxing ☒ (D) Shooting
71. A train, 270 metres long, is running at the speed of 120 kmph. It crosses another train, which is running at the speed of 80 kmph in opposite direction on parallel track, in 9 seconds. What is the length of another train ?
☒ (A) 230 metres (B) 100 metres (C) 250 metres (D) 330 metres
72. The Height, Width and Depth of an object can be shown with a minimum of how many Orthographic projection views ?
(A) Six (B) Three ☒ (C) Two (D) Four
73. Which one of the following is **not** a prime number ?
(A) 71 ☒ (B) 91 (C) 61 (D) 31
74. The average of six numbers is 3.95. If the average of first two numbers is 3.40 and the average of next two numbers is 3.85, then find the average of the remaining two numbers.
☒ (A) 4.6 (B) 4.7 (C) 4.8 (D) 4.5
75. The word function that corrects text as we type is referred to as :
(A) Auto insert ☒ (B) Auto correct
(C) Auto summarize (D) Track changes
76. Microsoft Windows is a/an :
(A) Word-processing program (B) Database program
☒ (C) Operating system (D) Graphics program

77. Stiffeners are used in a Plate Girder to :
 (A) Avoid buckling of web plate (B) Reduce the shear stress
 (C) Reduce the compressive stress (D) Take the bearing stress
78. When an object is cut by a section plane parallel to horizontal plane and perpendicular to vertical plane, then the sectional view of the object is obtained in :
 (A) Front view (B) Left side view (C) Right side view (D) Top view
79. Atoms of the elements belonging to the same group of periodic table will have :
 (A) Same number of protons (B) Same number of neutrons
 (C) Same number of electrons (D) Same number of electrons in the valence shell
80. Which of the following rational relation operations in 'C' means "not equal to" ?
 (A) # (B) == (C) != (D) <=
81. Find the missing term of the following series :
 1, 3, 3, 6, 7, 9, 13, _____, 21
 (A) 14 (B) 12 (C) 11 (D) 10
82. For an Ideal Gas, the change in Enthalpy (ΔH) for an elemental change in temperature (ΔT) is given by :
 (where C_p = Heat capacity at Constant Pressure ; C_v = Heat capacity at Constant Volume)
 (A) $C_v \cdot \Delta T$ (B) $\frac{C_p}{C_v} \cdot \Delta T$ (C) $\frac{C_v}{C_p} \cdot \Delta T$ (D) $C_p \cdot \Delta T$
83. If $\log_{10} 7 = x$, then the value of $\log_{10} \left(\frac{1}{70} \right)$ is equal to :
 (A) $-(1+x)$ (B) $(1+x)^{-1}$ (C) $\frac{x}{10}$ (D) $\frac{1}{10x}$
84. Who is the Chairman of Rajya Sabha ? (As on 01.11.2014)
 (A) Sumitra Mahajan (B) Hamid Ansari
 (C) Arun Jaitley (D) Thambi Durai
85. Identify the Mughal Emperor who gave permission to East India Company to establish their factory at Surat :
 (A) Akbar (B) Jahangir (C) Shahjahan (D) Aurangzeb

86. What was the overall voting percentage in the recently held General Elections for 16th Lok Sabha ?
(A) About 60% (B) About 55% ☒ (C) About 66% (D) About 78%
87. The perimeter of a square 'S' and perimeter of an equilateral triangle 'T' are equal. If the diagonal of this square 'S' is $12\sqrt{2}$ cm, then find the area of this equilateral triangle 'T'.
(A) $48\sqrt{3}$ cm² ☒ (B) $64\sqrt{3}$ cm² (C) $24\sqrt{2}$ cm² (D) $24\sqrt{3}$ cm²
88. The measurement of the speed of a rotating shaft by means of an electric tachometer is a :
(A) Direct Measurement (B) Secondary Measurement
☒ (C) Tertiary Measurement (D) All of these
89. Sardar Patel was born on October 31, 1875. His birth anniversary on October 31, this year was observed as :
☒ (A) Rashtriya Ekta Diwas (National Unity Day)
(B) Anti-Corruption Day
(C) Anti Communal Day
(D) Swachh Bharat Day (Clean India Day)
90. As per Census, 2011. What is the Sex Ratio (i.e. No. of Females per 1000 Males) of India ?
(A) 914 (B) 923 ☒ (C) 940 (D) 956
91. If 15% of x % of 582 = 17.46, then find the value of ' x ' :
(A) 2 (B) 10 (C) 15 ☒ (D) 20
92. A shopkeeper purchased 100 oranges for ₹ 350 and then sold these oranges at the rate of ₹ 48 per dozen. What is his percentage profit ?
(A) $12\frac{1}{2}$ % ☒ (B) $14\frac{2}{7}$ % (C) $10\frac{1}{2}$ % (D) 15%
93. The distance between C.G. of compression and C.G. of Tension Flanges of a Plate Girder is known as :
(A) Clear depth ☒ (B) Effective depth (C) Overall depth (D) None of these
94. The sum of the squares of three consecutive odd numbers is 2531. Find these three odd numbers :
(A) 21, 23, 25 (B) 25, 27, 29 ☒ (C) 27, 29, 31 (D) 23, 25, 27

95. Find 63% of $3\frac{4}{7}$:

- (A) 2.25 (B) 2.40 (C) 2.50 (D) 2.75

96. Zener Diode is a :

- (A) Reverse biased diode (B) Forward biased diode
(C) Variable voltage source (D) Constant current source

97. In a certain code language, '253' means 'books are old'; '546' means 'man is old' and '378' means 'buy good books'. Which number in that language means 'are' ?

- (A) 5 (B) 3 (C) 7 (D) 2

98. If the diameter of a wire is halved, its current carrying capacity will become :

- (A) One-fourth (B) Half (C) Twice (D) Four Times

99. If the electron in hydrogen orbit jumps from third orbit to second orbit then the wavelength (λ) of the emitted radiation is given by : (where R = Rydberg constant)

- (A) $\lambda = \frac{R}{6}$ (B) $\lambda = \frac{R}{5}$ (C) $\lambda = \frac{36}{5R}$ (D) $\lambda = \frac{5R}{36}$

100. Find the angle between the Hour hand the Minute hand of a clock when the time is 03 : 40 that is 40 minutes past 3 ?

- (A) 120° (B) 125° (C) 130° (D) 135°

101. Errors which may be variable both in magnitude and nature (positive or negative) are classified as _____ error.

- (A) Hysteresis (B) Random (C) Interaction (D) Systematic

102. Find the value of :

$$\frac{(489 + 375)^2 - (489 - 375)^2}{(489 \times 375)}$$

- (A) 144 (B) 864 (C) 2 (D) 4

103. Which one of the following blood group is considered Universal Donor ?

- (A) AB (B) O (C) A (D) B

104. The MOSFET switch in its on-state may be considered equivalent to :

- (A) Resistor (B) Capacitor (C) Inductor (D) Battery

105. At present, who is the Chief Justice of India ? (As on 01.11.2014)
☒ (A) Justice H.L. Dattu (B) Justice R.M. Lodha
(C) Justice P. Sathashivam (D) Justice A. Kabir
106. The losses in a transformer are :
(i) Copper loss (ii) Eddy current loss (iii) Hysteresis loss
The constant power loss of a transformer is given by :
(A) (i) only (B) (ii) only (C) (iii) only ☒ (D) (ii) and (iii) only
107. The main principle of surveying is to work from :
(A) Part to whole ☒ (B) Whole to part
(C) Higher Level to Lower Level (D) Lower Level to Higher Level
108. In a singly Reinforced Beam, if the permissible stress in concrete reaches earlier than the permissible stress in steel, the Beam section is called :
(A) Under Reinforced Section (B) Economic Section
(C) Critical Section ☒ (D) Over Reinforced Section
109. In Boolean Algebra, $A+A+A+\dots+A$ is the same as :
(A) Zero ☒ (B) A (C) nA (D) A^n
110. If a system in equilibrium is subjected to a change of concentration; temperature or pressure, the equilibrium shifts in a direction that tends to undo the effect of the change imposed. This is known as :
☒ (A) Le Chatelier's Principle (B) Law of Mass Action
(C) Van der Waals Principle (D) None of these
111. In a transformer, electrical power is transferred from one circuit to another circuit without change in :
☒ (A) Frequency (B) Voltage (C) Current (D) All of these
112. The Headquarters of South East Central Railway is Located at :
(A) Kolkata (B) Nagpur (C) Secunderabad ☒ (D) Bilaspur
113. Expression $++i$ is equivalent in 'C' to :
☒ (A) $i=i+1$ (B) $i=i+2$ (C) $i=2i$ (D) None of these
114. Which extension is given to word document by default ?
☒ (A) DOC (B) COM (C) EXT (D) None of these

115. If $3x+7=x^2+p=7x+5$, then the value of 'p' will be :
 (A) $\frac{1}{2}$ (B) $8\frac{1}{2}$ (C) $2\sqrt{2}$ ☒ (D) $8\frac{1}{4}$
116. The value of the binary 11111 is :
 (A) 2^4-1 (B) 2^4 (C) 2^5 ☒ (D) 2^5-1
117. The speed of a boat in downstream direction is 14 km/hour and in upstream direction is 8 km/hour. Find the speed of this boat in still water :
 (A) 22 km/hour (B) 6 km/hour (C) 3 km/hour ☒ (D) 11 km/hour
118. For a PN Junction, when the N-side is more positive than the P-side ; the diode is said to be :
 (A) Forward Biased and a large current exists
 (B) Forward Biased and a small current exists
 (C) Reverse Biased and a large current exists
☒ (D) Reverse Biased and a small current exists
119. Four wires of same material, same cross section area and the same length, when connected in parallel, give effective resistance of 0.25 ohm. If these four wires are connected in series, then the effective resistance will be :
☒ (A) 4 ohm (B) 1 ohm (C) 2 ohm (D) 0.50 ohm
120. The number of chromosomes in a normal human body cell is :
 (A) 43 (B) 44 (C) 45 ☒ (D) 46
121. Find the distance of object from a concave mirror of focal length 10 cm so that the size of its real image is four times the size of the object.
 (A) 7.5 cm (B) 5 cm (C) 2.5 cm ☒ (D) 12.5 cm
122. Chain surveying is well adopted for :
☒ (A) Small areas in open ground (B) Large areas with simple details
 (C) Small areas with crowded details (D) Large areas with difficult details
123. The ruler of which of the following States was removed from power by the British on the pretext of misgovernance ?
☒ (A) Awadh (B) Jhansi (C) Satara (D) Nagpur
124. Who is the Chief Minister of Haryana ? (As on 01.11.2014)
☒ (A) Manohar Lal Khattar (B) Sushma Swaraj
 (C) Om Prakash Chautala (D) Bhupendra Singh Hooda

125. Power Factor of the following circuit will be unity :

- (A) Inductance ☒ (B) Resistance
(C) Capacitance (D) Inductance and Capacitance

126. Schmitt trigger is used for :

- (A) Voltage to frequency conversion (B) Changing the level of the signal
☒ (C) Squaring a wave (D) None of these

127. Which one of the following is renewable resource ?

- (A) Coal (B) Petroleum (C) Natural Gas ☒ (D) Wind

128. Shanti Swarup Bhatnagar Award is given for outstanding contribution in the following field :

- ☒ (A) Science (B) Literature (C) Economy (D) Performing Arts

129. The bending of bimetallic strips during rise in temperature is due to difference in their :

- ☒ (A) Coefficient of linear expansion (B) Thickness
(C) Thermal conductivities (D) Elastic properties

130. Triple Vaccine is administered to a new born child to immunize against :

- (A) Whooping Cough, Tetanus and Measles
☒ (B) Whooping Cough, Tetanus and Diphtheria
(C) Tetanus, Diphtheria and Small pox
(D) Tetanus, Typhoid and Hepatitis

131. Identify the Country which was successful in putting a space craft into the Martian Orbit on its maiden attempt ?

- (A) Russia (B) China ☒ (C) India (D) USA

132. Pipe 'P' can fill a tank in 10 hours and Pipe 'Q' can fill this tank in 12 hours. Pipe 'R' can empty the full tank in 20 hours. If all the three pipes are operated simultaneously, then in how much time this tank will be filled ?

- (A) 7 hours ☒ (B) $7\frac{1}{2}$ hours (C) 8 hours (D) $8\frac{1}{2}$ hours

133. The perimeter of a rectangle is 46 cm. The length of a diagonal of this rectangle is 17cm. Find the area of this rectangle.

- (A) 240 cm² (B) 529 cm² (C) 289 cm² ☒ (D) 120 cm²

134. Find the value of ${}^{10}C_3$:
 (A) 720 (B) 240 ☒ (C) 120 (D) 1000
135. _____ will translate the complete program at once from a High Level Language to the Machine Language.
☒ (A) Compiler (B) Joy stick (C) Ports (D) Light pen
136. Which one of the following has the dimensions of pressure ?
 (A) MLT^{-2} ☒ (B) $ML^{-1}T^{-2}$ (C) $ML^{-2}T^{-2}$ (D) $ML^{-1}T^{-1}$
137. If whole Circle Bearing of a line is 120° , then its Reduced Bearing is :
 (A) S 20° E ☒ (B) S 60° E (C) N 120° E (D) N 60° E
138. Ravi spends $\frac{2}{5}$ of his salary on House Rent; $\frac{3}{10}$ of his salary on Food and $\frac{1}{8}$ of his Salary on Conveyance. After this, he is left with ₹ 1400. Find his expenditure on Food.
 (A) ₹ 8000 (B) ₹ 3200 ☒ (C) ₹ 2400 (D) ₹ 1000
139. If $\left(\frac{a}{b}\right)^{x-1} = \left(\frac{b}{a}\right)^{x-3}$, then the value of 'x' is :
 (A) $\frac{1}{2}$ (B) 1 ☒ (C) 2 (D) -1
140. The relationship between void ratio 'e' and porosity ratio 'n' for a given soil mass is :
 (A) $n = \frac{1+e}{1-e}$ (B) $e = \frac{1+n}{1-e}$ ☒ (C) $e = n(1+e)$ (D) $n = \frac{1-e}{e}$
141. Jarawas and Shompens Tribal Groups live in :
☒ (A) Andaman and Nicobar Islands (B) Chhattisgarh
 (C) Jharkhand (D) Madhya Pradesh
142. Sampling Theorem finds application in :
 (A) Amplitude Modulation (B) Frequency Modulation
☒ (C) Pulse Code Modulation (D) None of these

143. Find the work done when a force $\vec{F} = (\vec{i} + 2\vec{j} + 3\vec{k})$ N acting on a particle takes it from

the point $\vec{r}_1 = (\vec{i} + \vec{j} + \vec{k})$ m to the point $\vec{r}_2 = (\vec{i} - \vec{j} + 2\vec{k})$ m.

- (A) -3 J ☒ (B) -1 J (C) Zero (D) 2 J

144. Where was the First Session of Indian National Congress held in 1885 A.D. ?

- (A) Delhi (B) Calcutta ☒ (C) Bombay (D) Surat

145. Identify the cyclone which caused large scale destructions in Vishakhapatnam this year in October ?

- (A) Phailin (B) Katrina ☒ (C) Hudhud (D) Nilofar

146. The most ideal disinfectant used for drinking water is :

- (A) Alum ☒ (B) Chlorine (C) Lime (D) Nitrogen

147. Which of the following cycles is used in thermal power plants ?

- ☒ (A) Rankine (B) Carnot (C) Otto (D) Joule

148. The length of a line measured with 20 m chain is found to be 400 m. If the actual length of the chain is 20.05 m, then the true length of the line is :

- (A) 400.50 m (B) 401.50 m (C) 402.50 m ☒ (D) 401.0 m

149. Find the value of $(0.000216)^{\frac{1}{3}}$:

- (A) 0.6 ☒ (B) 0.06 (C) 0.006 (D) 0.0006

150. Age of a Tree may be ascertained by :

- (A) Radius of its Stem ☒ (B) Number of Annual Rings
(C) Number of Branches (D) Circumference of its Stem