

1. A perfect black body is one which \_\_\_\_\_  
(A) is black in colour  
(B) transmits the heat radiations  
(C) reflects all the heat radiations  
(D) absorbs heat radiations of all wave lengths falling on it
2. The range of slip for induction motor is normally \_\_\_\_\_  
(A) 0 to 1 %  
(B) 0.1 to 0.5 %  
(C) 2 to 5 %  
(D) 5 to 25 %
3. The capacitor in a capacitor-start induction run ac motor is connected in series with \_\_\_\_\_  
(A) starting winding  
(B) running winding  
(C) squirrel cage winding  
(D) compensating winding
4. The time constant of an R.C. series circuit increases if the value \_\_\_\_\_  
(A) Both R and C increased  
(B) Both R and C decreased  
(C) R increased and C decreased  
(D) R decreased and C increased
5. In a reaction turbine, the draft tube is used \_\_\_\_\_  
(A) to run the turbine full  
(B) to prevent air to enter the turbine  
(C) to increase the head of water by an amount equal to the height of the runner outlet above the tail race  
(D) to transport water to downstream
6. An isothermal process is governed by \_\_\_\_\_  
(A) Boyle's law  
(B) Charles' law  
(C) Gay-Lussac law  
(D) Avogadro's law

7. A 100 W, 100 V bulbs is to connect with 200 V supply. Which of the following arrangement is preferable ?

- (A) Additional resistance in parallel with lamp
- (B) Additional capacitance and inductance in series with lamp
- (C) Additional inductance in parallel with lamp
- (D) Additional resistance in series with lamp

8. Workdone in a free expansion process is \_\_\_\_\_.

- (A) zero
- (B) minimum
- (C) maximum
- (D) positive

9. \_\_\_\_\_ is the real part and \_\_\_\_\_ is imaginary part of admittance ?

- (A) impedance, resistance
- (B) resistance, impedance
- (C) susceptance, inductance
- (D) conductance, susceptance

10. The primary function of the bias circuit is to \_\_\_\_\_.

- (A) hold the circuit stable at  $V_{in}$
- (B) hold the circuit stable at VCC
- (C) hold the circuit stable at the designed Q-point
- (D) ensure proper gain is achieved

11. The frequency of the induced emf in the rotor circuit is maximum \_\_\_\_\_.

- (A) At standstill
- (B) At full load
- (C) At no load
- (D) At full torque

12. Transformers are rated at kVA instead of kW because \_\_\_\_\_.

- (A) kVA is fixed whereas kW is depend on pf
- (B) total transformer loss depends on volt-amperes
- (C) load pf is often not known
- (D) it has become customary



13. Hook's law holds good up to \_\_\_\_\_.
- (A) yield point (B) elastic limit  
(C) plastic limit (D) breaking point
14. No-load speed of which of the following motor will be highest ?
- (A) Shunt motor (B) Series motor  
(C) Cumulative compound motor (D) Differential compound motor
15. The ratio of specific heat at constant pressure ( $c_p$ ) and specific heat at constant volume ( $c_v$ ) is \_\_\_\_\_.
- (A) greater than one (B) less than one  
(C) greater than two (D) less than two
16. The compression ratio is the ratio of \_\_\_\_\_.
- (A) swept volume to clearance volume  
(B) total volume to clearance volume  
(C) total volume to swept volume  
(D) swept volume to total volume
17. The nature of armature mmf for a zero power factor lagging load in a 3-phase alternator is \_\_\_\_\_.
- (A) demagnetizing (B) magnetizing  
(C) neutral (D) cross-magnetizing
18. The ratio of linear stress to the linear strain is called \_\_\_\_\_.
- (A) modulus of rigidity (B) modulus of elasticity  
(C) Poisson's ratio (D) bulk modulus
19. Parson's turbine is a \_\_\_\_\_.
- (A) simple impulse turbine (B) simple reaction turbine  
(C) impulse-reaction turbine (D) Compound impulse turbine

20. The \_\_\_\_\_ number of poles in a three-phase induction motor at 50 Hz frequency running below 1500 rpm.
- (A) 4 (B) 2  
(C) 6 (D) 8
21. Thermal diffusivity is a \_\_\_\_\_.
- (A) function of temperature (B) physical property of a substance  
(C) dimensionless parameter (D) function of atmosphere
22. The number of p-n junction in thyristor is \_\_\_\_\_.
- (A) 1 (B) 3  
(C) 2 (D) 4
23. When transistors are used in digital circuits they usually operate in the \_\_\_\_\_.
- (A) active region (B) breakdown region  
(C) saturation and cutoff regions (D) linear region
24. Which of the following has the highest calorific value ?
- (A) Peat (B) Lignite  
(C) Bituminous coal (D) Anthracite coal
25. In a parallel resistive circuit, opening a branch will results in \_\_\_\_\_.
- (A) Change in total voltage (B) Increase in total power  
(C) Change in branch voltage (D) Increase in total resistance
26. A manometer is used to measure \_\_\_\_\_.
- (A) low pressure (B) moderate pressure  
(C) atomospheric pressure (D) high pressure
27. When a 3-phase alternator is suddenly short circuited at its terminals, the initial value of short-circuit current is limited by which one of the following \_\_\_\_\_.
- (A) transient reactance  $X_d'$  (B) synchronous reactance  $X_s$   
(C) sum of  $X_d''$ ,  $X_d'$  and  $X_s$  (D) sub-transient reactance  $X_d''$



28. Which of the following is not a boiler mounting ?
- (A) Blow off cock (B) Feed check valve  
(C) Economiser (D) Fusible plug
29. The efficiency of Carnot cycle depends upon \_\_\_\_\_.
- (A) temperature limits (B) pressure ratio  
(C) volume compression ratio (D) cutt off ratio
30. On which concept superposition theorem is based \_\_\_\_\_.
- (A) Reciprocity (B) Duality  
(C) Non-linearity (D) Linearity
31. Which of the following turbine is preferred for a specific speed of 60 to 300 r.p.m. ?
- (A) Pelton wheel (B) Francis turbine  
(C) Kaplan turbine (D) Jonval turbine
32. The mmf produced by single phase winding is \_\_\_\_\_.
- (A) pulsating and rotating with constant speed  
(B) pulsating and stationary  
(C) constant in amplitude and stationary  
(D) constant in amplitude and rotating
33. The gate lead, in thyristor is welded to \_\_\_\_\_.
- (A) P layer to which anode is connected (B) N layer nearest to anode terminal  
(C) P layer nearest to cathode terminal (D) Outside N layer
34. In order to measure the flow with a venturimeter, it is installed in \_\_\_\_\_.
- (A) horizontal line (B) inclined line with flow upwards  
(C) inclined line with flow downwards (D) any direction and in any location

35. In a DC Machine, for Lap winding, the number of brushes is always \_\_\_\_\_.

- (A) Double the number of poles
- (B) Same as the number of poles
- (C) Half the number of poles
- (D) Two

36. The centre of gravity of the volume of the liquid displaced is called \_\_\_\_\_.

- (A) centre of pressure
- (B) centre of buoyancy
- (C) metacentre
- (D) none of these

37. The sum of internal energy (U) and the product of pressure and volume (p.v) is known as \_\_\_\_\_.

- (A) workdone
- (B) entropy
- (C) Enthalpy
- (D) internal energy

38. During the short circuit test on transformer, core loss is negligible because \_\_\_\_\_.

- (A) the power factor is high
- (B) the current on lv side is very small
- (C) the voltage applied at hv is very low and hence is mutual flux
- (D) iron becomes fully saturated

39. Which part of transformer is subjected to maximum heating ?

- (A) core
- (B) frame
- (C) oil
- (D) winding

40. The gas turbine cycle with regenerator improves \_\_\_\_\_.

- (A) thermal efficiency
- (B) work ratio
- (C) avoids pollution
- (D) fuel efficiency

41. Which of the following is not a reaction turbine ?

- (A) Furneyron turbine
- (B) Jonval turbine
- (C) Thomson's turbine
- (D) Pelton turbine



42. The steam leaves the nozzle at a \_\_\_\_\_.
- (A) high pressure and a low velocity (B) high pressure and a high velocity  
(C) low pressure and a low velocity (D) low pressure and a high velocity
43. When the rotor of an induction motor is standstill the value of the slip is \_\_\_\_\_.
- (A) Zero (B) 1  
(C) 100 (D) Infinite
44. The difference between dry bulb temperature and wet bulb temperature, is called \_\_\_\_\_.
- (A) dry bulb depression (B) wet bulb depression  
(C) dew point depression (D) degree of saturation
45. The stator winding of 1-phase induction motor is splitted in two parts in order to \_\_\_\_\_.
- (A) improve efficiency (B) improve power factor  
(C) increase speed (D) develop starting torque
46. According to equation of continuity, \_\_\_\_\_.
- (A)  $w_1 a_1 = w_2 a_2$  (B)  $w_1 v_1 = w_2 v_2$   
(C)  $a_1 v_1 = a_2 v_2$  (D)  $a_1 / v_1 = a_2 / v_2$
47. A single phase fully controlled dual converter uses \_\_\_\_\_ Thyristors.
- (A) 2 (B) 8  
(C) 4 (D) 6
48. The value of gas constant (R) in S. I. units is \_\_\_\_\_.
- (A) 0.287 J/kgK (B) 2.87 J/kgK  
(C) 28.7 J/kgK (D) 287 J/kgK
49. In a C-E configuration, an emitter resistor is used for :
- (A) stabilization (B) ac signal bypass  
(C) collector bias (D) higher gain

50. The natural draught is produced by \_\_\_\_\_.
- (A) steam jet (B) centrifugal fan  
(C) chimney (D) both (a) and (b)
51. અમે ત્યાં ગયા નહોતા - વાક્યનો પ્રકાર જણાવો.
- (A) નિષેધ (B) હકાર  
(C) સંયુક્ત (D) સંકુલ
52. પ્રસિદ્ધ પ્રાગ મહેલ ગુજરાતમાં ક્યાં આવેલો છે ?
- (A) પાટણ (B) બાલાસિનોર  
(C) ભુજ (D) નવસારી
53. લોકસાહિત્યકાર ઝવેરચંદ મેઘાણીનું જન્મ સ્થળ કયું ?
- (A) શિહોર (B) સોનગઢ  
(C) ચોટીલા (D) વાંકાનેર
54. Gaga Wildlife (ગાગા વાઇલ્ડ લાઇફ) અભ્યારણ્ય ક્યાં આવેલું છે ?
- (A) કલ્યાણપુર (B) ઉમરગામ  
(C) ઇડર (D) પાલનપુર
55. પ્રખ્યાત કવિ નરસિંહ મહેતાનું જન્મ સ્થળ કયું ?
- (A) તળાજા (B) જુનાગઢ  
(C) કોટડા-સાંગાણી (D) તલગાજરડા
56. નીચેનામાંથી કયો જોડણી ખરી નથી ?
- (A) ચુર્ણ (B) સૂર્ય  
(C) મૂર્ખ (D) કીર્તિ
57. SNDT મહિલા વિદ્યાપીઠની સ્થાપના કોણે કરી હતી ?
- (A) ધોન્ડો કેશવ કર્વે (B) શ્રીમતી નાથીબાઈ ઠાકરશી  
(C) સાવિત્રીબાઈ ફૂલે (D) વિમલા કૌલ



58. અમૂલ ડેરીની સ્થાપના કયા વર્ષમાં થઈ હતી ?
- (A) 1951 (B) 1947  
(C) 1946 (D) 1952
59. નીચેનામાંથી કયું બંધારણ માલિની છંદ દર્શાવે છે ?
- (A) નનમયય (B) નનનમય  
(C) નમનયય (D) યયમનન
60. સમુદ્રતળથી સાપુતારા ગિરિમથકની ઉંચાઈ આશરે કેટલી છે ?
- (A) 750 મીટર (B) 800 મીટર  
(C) 900 મીટર (D) 1000 મીટર
61. નીચેનામાંથી કયું સુસંગત નથી ?
- (A) અનલ (B) પાવક  
(C) વહિન (D) અખિલ
62. બાને તેમના પૈસા નિયમિત મળતા - આ વાક્યમાં કયું વિશેષણ રીત વાચક છે ?
- (A) તેમના (B) નિયમિત  
(C) પૈસા (D) મળતા
63. વૌઠાનો મેળો ક્યાં ભરાય છે ?
- (A) ધોળકા (B) જાફરાબાદ  
(C) રાજુલા (D) સાવરકુંડલા
64. "કુદરતનું સુંદરધામ" શબ્દસમૂહ માટે એક શબ્દ આપો.
- (A) બરફ (B) જડસુ  
(C) પ્રકૃતિમંદિર (D) ગમ્મ
65. માતૃ તર્પણ માટે સિદ્ધપુરનું કયું તળાવ પ્રસિદ્ધ છે ?
- (A) ગોપી તળાવ (B) બિંદુ તળાવ  
(C) ગોમતી તળાવ (D) લખોટા તળાવ

66. નીચેનામાંથી કયો ઉપપદ સમાસ છે ?

(A) સરોજ

(B) અઠવાડિયું

(C) રણવીર

(D) વનશ્રી

67. બક્સરનું યુદ્ધ કયા વર્ષમાં થયું હતું ?

(A) 1757

(B) 1764

(C) 1857

(D) 1769

68. નીચેનામાંથી કયું ધાતુ સકર્મક છે ?

(A) ખાવું

(B) આવવું

(C) સૂવું

(D) જવું

69. "ભૂલો ભલે બીજુ બધુ, માં બાપને ભૂલશો નહિ" એ કયો છંદ છે ?

(A) હરીગીત

(B) ચોપાઇ

(C) દોહરો

(D) સોરહો

70. મુસ્લિમ લીગની સ્થાપના ક્યારે થઇ હતી ?

(A) 1905

(B) 1906

(C) 1930

(D) 1931

71. માછલી અને અન્ય મત્સ્ય ઉત્પાદનોની નિકાસ 2019-20ના વર્ષમાં ગુજરાત રાજ્યમાંથી આશરે કેટલી હતી ?

(A) રૂ. 300 કરોડ

(B) રૂ. 3,000 કરોડ

(C) રૂ. 500 કરોડ

(D) રૂ. 5,000 કરોડ

72. મોં પડી જવું એટલે .....

(A) ગમગીન થવું

(B) ખુશ થવું

(C) ઝંખવાણું પડી જવું

(D) ખૂબ જ રડવું.

73. કયા અંગ્રેજ વ્યક્તિએ રાસમાળા-1 અને રાસમાળા-2 પ્રકાશિત કરી ?

(A) સ્મિથ બોસવર્થ

(B) રોજર એલેક્ઝાન્ડર

(C) એલેક્ઝાન્ડર ફાર્બસ

(D) વિલિયમ્સ



74. નીચેનામાંથી કયું વિશેષણ માત્રાસૂચક નથી ?

- (A) આછું (B) બહુ  
(C) સાવ (D) તદ્દન

75. કાંતિલાલ વોરાએ કયા ક્ષેત્રમાં નામના મેળવી છે ?

- (A) ફિલ્મ (B) સંગીત  
(C) જાદુગર (D) લોકગીત

76. જૈન ધર્મના પ્રથમ તીર્થંકર કોણ હતા ?

- (A) મહાવીર સ્વામી (B) સ્વામી અજીતનાથ  
(C) ઋષભ દેવ (D) નેમીનાથ

77. ઘઉં માટે વિખ્યાત ભાલ વિસ્તાર કયા જિલ્લામાં આવેલ છે ?

- (A) દાહોદ (B) અમદાવાદ  
(C) કચ્છ (D) સુરત

78. ઇંગ્લીશ ચેનલ તરનાર સૌ પ્રથમ ભારતીય કોણ હતા ?

- (A) આરતી સહા (B) સારા થોમસ  
(C) મિહિર સેન (D) સામંથા

79. પૂજ્ય શ્રી મોટા સંતનું મૂળ નામ કયું છે ?

- (A) શ્રી મધુસૂદન સરસ્વતી (B) શ્રી ચુનીલાલ ભાવસાર  
(C) શ્રી આત્માનંદ કિષ્ના (D) શ્રી પ્રશાંત આચાર્ય

80. નીચેનામાંથી કઈ જાતિવાચક સંજ્ઞા છે ?

- (A) કારીગર (B) ચોરી  
(C) સફેદી (D) ફોજ

81. કલા + ભૂમિ = .....

- (A) કલામિ (B) કલોમિ  
(C) કલુમિ (D) કલોર્મી

82. તત્સમનો વિરોધી શબ્દ કયો ?

(A) તદ્ભવ

(B) ભવ

(C) તભવ

(D) તેલી

83. નીચેનામાંથી કયું સુસંગત નથી ?

(A) રૂડી

(B) સારી

(C) સુંદર

(D) છડો

84. કયા લેખકે 'બુદ્ધિ વર્ધક સભા'ની સ્થાપના કરી હતી ?

(A) અરદેશર ખબરદાર

(B) ગોવર્ધનરામ ત્રિપાઠી

(C) નર્મદ

(D) નંદશંકર મહેતા

85. રાષ્ટ્રગાન તરીકે 'જન ગણ મન'નો સ્વીકાર કયા વર્ષમાં કરવામાં આવ્યો ?

(A) 1949

(B) 1947

(C) 1948

(D) 1950

86. City taxes are based on an estimate of the value of one's property. (Find suitable word for underlined)

(A) appraisal

(B) forecast

(C) diagnosis

(D) outline

87. I hope it will not rain when they have started their journey. (Find more suitable from given options for underlined)

(A) they will have started their journey

(B) they will start their journey

(C) they start their journey

(D) No improvement

In the following questions 88 & 89 look at the underlined part of each sentence. Below the sentence are given three possible substitutions for the underline part. If any one of substitutions (a), (b) or (c) is better than the underlined part, choose that substitution as your response. If none of the substitutions improves the sentence, choose (d) as your response. Thus, a 'No improvement' response will be signified by the letter (d).

88. Hold hands of your child while crossing the road.

(A) your child's hands

(B) your child's hand

(C) hand of your child

(D) No improvement



89. You must accustom yourself with new ideas.

- (A) accustomed with (B) accustom to  
(C) accustom yourself to (D) No improvement

90. The poor have to work \_\_\_\_\_ morning to evening. (Fill in the blanks in question )

- (A) in (B) to  
(C) from (D) before

91. The limestone formations suggest that in the distant past, the area was a vast sea filled with creatures that absorb calcium compounds from the water. (Find more suitable from given options for underlined)

- (A) absorbs (B) absorbed  
(C) had absorbed (D) No improvement

92. Technology must use to feed the forces of change. (Choose the correct option for the underline part to make the sentence grammatically correct)

- (A) must be used to feed (B) must have been using to feed  
(C) must use having fed (D) must be using to feed

93. He has full facts \_\_\_\_\_ but is deliberately hiding them. (Fill in the blank)

- (A) up his sleeves (B) in his sleeves  
(C) under his sleeves (D) upon his sleeves

94. Their faults are \_\_\_\_\_ by their masters. (Fill in the blank)

- (A) winked after (B) winked at  
(C) winked out (D) winked

95. She \_\_\_\_\_ a brief appearance at the end of the party (Fill in the blank from the options)

- (A) put on (B) put in  
(C) put across (D) put up

96. Which part of the given sentence below is incorrect ?

All of us / surprised / to see an old man of / sixty taking part in the Marathon held last month.

- (A) All of us (B) surprised  
(C) to see an old man of (D) sixty taking part in the Marathon held last month.

97. I go \_\_\_\_\_ swimming every morning. (Fill in the blanks in question )

- (A) to (B) for  
(C) at (D) in

98. The preservation of peace is necessary. (Choose the correct / improved part for underlined)

- (A) maintenance of peace (B) establishment of peace  
(C) persuasion of peace (D) No improvement

99. If you wrote to me earlier, I would have easily solved your problem. (Find more suitable from given options for underlined).

- (A) were writing (B) had written  
(C) have written (D) No improvement

100. Which part of the given sentence below is incorrect ?

Of the two principles / he put forward, the last one / was the more / difficult to understand.

- (A) Of the two principles (B) he put forward, the last one  
(C) was the more (D) difficult to understand.