

**QUESTIONS FOR WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER**  
**(ELECTRICAL) ON COMPASSIONATE GROUND**

**Duration: 2 hrs.**

**Max. Marks: 150**

**Date : 10.6.19**

Each question is having four multiple choice answers out of which only one is correct. For each correct answer one mark will be awarded. There is no negative marking.

Q.1 The upper house of Indian Parliament is known as –

(A) The RajyaSabha (B) The LokSabha (C) The VidhanSabha (D) The VidhanParishad

Q.2 Silicon city of India-

(A) Bangalore (B) Goa (C) Jaipur (D) Delhi

Q.3 The study of sound & sound waves-

(A) Mechanical (B) Technical (C) Acoustics (D) Sound Waves

Q.4 Southern Railway is headquartered at.....

(A) Hyderabad (B) Bangalore (C) Secunderabad (D) Chennai

Q.5 The book "Ignited Minds- Unleashing the power within India" is written by-

(A) A.P.J. Kalam (B) Ram Mohan Sharma (C) Mohan Desai (D) JawaharLal Nehru

Q.6 Vitamin B12 helps in fighting against-

(A) Anemia (B) Rickets (C) Dengue (D) Plague

Q.7 Who is the Metro man of India –

(A) Rajiv Gandhi (B) Sardar Patel (C) E.Sreedharan (D) LalBahadurShastri

Q.8 IRTC has partnered with \_\_\_\_\_ e-commerce portal for online shopping-

(A) Amazon (B) Ali Baba (C) Apple (D) Microsoft

Q.9 Numismatics is the study of –

- (A) Art (B) Cultural (C) Currency & coins (D) Fossils

Q.10 River Mahanadi is originated from –

- (A) Rajasthan (B) Madhya Pradesh (C) Chhattisgarh (D) Uttar Pradesh

Q.11 Arihant is a-

- (A) Nuclear-powered Ballistic Missile (B) A tank (C) A bomb (D) A machine gun

Q.12 The highest peak of Eastern Ghats of India is –

- (A) Everest Peak (B) Kanchenjunga (C) Mahendragiri (D) Kenari

Q.13 The surface temperature of sun is around –

- (A) 6000° C (B) 3000° C (C) 4000° C (D) 5000° C

Q.14 Acid rain is caused by –

- (A) PO<sub>2</sub> and NO<sub>2</sub> (B) NAO<sub>2</sub> and NO<sub>2</sub> (C) SO<sub>2</sub> and NO<sub>2</sub> (D) CO<sub>2</sub> and NO<sub>2</sub>.

Q.15 'Pradhana Mantri Jan-Dhan Yojana' has been launched for-

- (A) promoting financial inclusion in the country  
(B) promoting agricultural inclusion in the country  
(C) promoting political inclusion in the country  
(D) promoting social inclusion in the country

Q.16 The 'Dronacharya Award' is associated with

- (A) Eminent Surgeons (B) Famous Artists (C) Sport Coaches (D) Expert Engineers

Q.17 Which of the following is India's highest honour in the field of literature?

- (A) Vyas Samman (B) Kalidas Samman (C) Jnanpith Award (D) Saraswathi Samman

Q.18 Bronze is an alloy of

- A. Tin and zinc B. Iron and zinc C. Copper and zinc D. Copper and tin

Q.19 Nucleus of an atom contains

- A. electrons B. protons C. electrons and protons D. protons and neutrons

Q.20. The recent general elections in india were for

- A. 17<sup>th</sup>LokSabha      B. 16<sup>th</sup>LokSabha      C. 15<sup>th</sup>LokSabha      D. 18<sup>th</sup>LokSabha

Q.21 In questions, find the odd word/ letters/number pair from the given alternatives.

- A. Kolkata      B. Vishakhapatnam      C. Bengaluru      D. Haldia

Q.22. If an electric train runs in the direction from North to South with a speed of 150 km/hr covering 2000 km, then in which direction will the smoke of its engine go ?

- A. N→→S      B. S→→N      C. E→→W      D. No direction

Q.23. Introducing a girl, Ram said to his son-in-law. "Her brother is the only son of my brother-in-law." Who is the girl of Ram?

- A. Sister-in-law      B. Niece      C. Daughter      D. Sister

Q.24. In questions, find the odd word/letters/ numbers from the given alternatives

- A. JeevanRakshaPadak      B. ParamVir Chakra      C. Padma Bhusan      D. Bharat Ratna

Q.25. In questions, find the odd word/letters/ numbers from the given alternatives

- A. QWBS      B. MPTD      C. UIAE      D. RVGW

Q.26. If in a code language, COULD is written as BNTKC and MARGIN is written as LZQFHM, how will MOULDING be written in that code ?

- A. CHMFINTK      B. LNKTCHMF      C. LNTKCHMF      D. NITKHCMF

Q.27. A family consisted of a man, his wife, his three sons, their wives and three children in each son's family. How many members are there in the family ?

- A. 12      B. 13      C. 15      D. 17

Q.28. A cyclist goes 30 km to North and then turning East he goes 40 km. Again he turns to his right and goes 20 km. After this, he turns to his right and goes 40 km. How far is he from his starting point ?

- A. 25 km      B. 40 km      C. 6 km      D. 10 km

Q.29. If '+' denotes  $\div$ , '-' denotes  $\times$ , ' $\times$ ' denotes  $-$  and ' $\div$ ' denotes  $+$ , then

$$35 + 7 - 5 \div 5 \times 6 = ?$$

- A. 20      B. 14      C. 36      D. 24

Q.30 . If the 5th date of a month is Tuesday, what date will be 3 days after the 3rd Friday in the month?

- A. 17                      B. 22                      C. 19                      D. 18

Q.31. Arrange the following words according to English Dictionary.

1. Banal 2. Banana 3. Banish 4. Bandage 5. Bandit

- A. 1, 3, 2, 4, 5                      B. 1, 2, 4, 3, 5                      C. 1, 2, 4, 5, 3                      D. 1, 3, 2, 5, 4

In questions 32 to 33 , a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

Q.32. 6, 14, 30, ?

- A. 54 B. 29 C. 27 D. 33

Q.33. CGJ, KOR, TXA, —? .

- A. ACE                      B. JDP                      C. FJM                      D. UWY

In questions no. 34 to 37, select the related word/letters/number from the given alternatives.

Q.34 . Uttarakhand : Dehradun :: Mizoram : ?

- A. Aizawl                      B. Kohima                      C. Shillong                      D. Darjeeling

Q.35. Crime : Court :: Disease : ?

- A. Doctor                      B. Medicine                      C. Hospital                      D. Treatment

Q.36 . Inexperience : Mistake :: Carelessness : ?

- A. Accident                      B. Transportation                      C. Gainfulness                      D. Successful

Q.37 . Thermometer : Heat :: Barometer : ?

- A. Temperature                      B. Pressure                      C. Humidity                      D. Altitude

Q.38. In question, select the one which is different from other three alternatives.

(A) BEH (B) CFI (C) DGJ (D) EHL

- A. a                      B. b                      C. c                      D. d

Q.39 . Directions :a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

10, 18, 34, ?, 130, 258

- A. 32                      B. 60                      C. 68                      D. 66

Q.40. Six persons A, B, C, D, E and F are walking in a line. C is in front of B. D is behind A, but in front of C. E is behind A, but in front of D. F is in front of A. Who is walking on the extreme back ?

- A. D                      B. B                      C. C                      D. F

Q.41 . If TRAIN is coded as WUDLQ, how is the word BUS coded ?

- A. EXU                      B. DWU                      C. EXV                      D. VXE

Q.42. If the diagonal of a rectangle is 17cm long and its perimeter is 46 cm. Find the area of the rectangle.

- A) 110                      B) 120                      C) 130                      D) 140

Q.43. A vessel is filled with liquid, 3 parts of which are water and 5 parts of syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

- A)  $\frac{1}{3}$                       B)  $\frac{1}{4}$                       C)  $\frac{1}{5}$                       D)  $\frac{1}{7}$

Q.44. A grocer has a sale of Rs 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs, 6500 ?

- A) 4991                      B) 5467                      C) 5987                      D) 6453

Q.45. A boat sails 15 km of a river towards upstream in 5 hours. How long will it take to cover the same distance downstream, if the speed of current is one-fourth the speed of the boat in still water:

- A) 1.8h                      B) 3h                      C) 4h                      D) 5h

Q.46. Today is Monday. After 61 days, it will be :

- A) Tuesday                      B) Monday                      C) Sunday                      D) Saturday

Q.47. When 0.36 is written in simplest form, the sum of the numerator and the denominator is :

- A) 15                      B) 34                      C) 64                      D) 13

Q.48. The L.C.M of two numbers is 495 and their H.C.F is 5. If the sum of the numbers is 100, then their difference is

- A) 10                      B) 46                      C) 70                      D) 90

Q.49: If an object travels at five feet per second, how many feet does it travel in one hour?

- A) 30                      B) 3000                      C) 18                      D) 1800

Q.50. The sum of the two numbers is 12 and their product is 35. What is the sum of the reciprocals of these numbers?

- A)  $12/35$                       B)  $1/35$                       C)  $35/8$                       D)  $7/32$

Q.51. A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is :

- A) 500                      B) 1000                      C) 1500                      D) 2000

Q.52. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was :

- A) 2500                      B) 2700                      C) 2900                      D) 3100

Q.53. The sum of the present ages of a father and his son is 60 years. Five years ago, father's age was four times the age of the son. So now the son's age will be:

- A) 5                      B) 10                      C) 15                      D) 20

Q.54. A man sitting in a train which is traveling at 50 kmph observes that a goods train, traveling in opposite direction, takes 9 seconds to pass him. If the goods train is 280 m long, find its speed.?

- A) 60                      B) 62                      C) 64                      D) 65

Q.55. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

- A) No profit, no loss                      B) 5%                      C) 8%                      D) 10%

Q.56. In a 500 m race, the ratio of the speeds of two contestants A and B is 3 : 4. A has a start of 140 m. Then, A wins by:

- A) 60m                      B) 40m                      C) 20m                      D) 10m

Q.57. A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is:

- A) 650                      B) 690                      C) 698                      D) 700

Q.58. A person crosses a 600 m long street in 5 minutes, What is his speed in km per hour?

- A) 3.6                      B) 7.2                      C) 8.4                      D) 10

Q.59. A, B and C can do a piece of work in 24 days, 30 days and 40 days respectively. They began the work together but C left 4 days before the completion of the work. In how many days was the work completed?

- A) 11 days                                      B) 12 days                                      C) 13 days                                      D) 14 days

Q.60. A hall is 15 m long and 12 m broad. If the sum of the areas of the floor and the ceiling is equal to the sum of the areas of four walls, the volume of the hall is:

- A) 720    B) 900    C) 1200    D) 1800

Q.61. Which of the following material does not allow the current to flow in it?

- a) Conductor                                      b) Insulator                                      c) Semiconductor                                      d) Superconductor

Q.62. Purely mechanical instrument cannot be used for dynamic measurements because they have

- a) high inertia.  
b) higher response time.  
c) large time constant.  
d) all of the above.

Q.63. Speed of data transmission in 4-G network of telecom is

- a) 386 kbps - 2 mbps.  
b) 2 mbps.  
c) 2 mbps – 1 gbps.  
d) 100 mbps - 1 gbps.

Q.64. Which system is also known as automatic control system?

- a) Open loop control system  
b) Closed loop control system  
c) Either 1 or 2  
d) Nether 1 nor 2

Q.65. Which number system has a base of 16

- a) Decimal  
b) Octal  
c) Hexadecimal  
d) None

Q.66. Which of these sets of logic gates are designated as universal gates?

- a) NOR, NAND.
- b) XOR, NOR, NAND.
- c) OR, NOT, AND.
- d) NOR, NAND, XNOR.

Q.67. Which of the following is a digital device

- a) Regulator of a fan
- b) Microphone
- c) Resistance of a material
- d) Light switch

Q.68. A digital circuit that can store one bit is a

- a) XOR gate
- b) flip-flop
- c) gate
- d) register

Q.69. A Nibble is equal to \_\_\_\_\_ bit(s)

- a) 1
- b) 2
- c) 4
- d) 8

Q.70.  $A + \bar{A}$  is equal to

- a) A
- b)  $\bar{A}$
- c) 0
- d) 1

Q.71. If 1 A current flows in a circuit, the number of electrons flowing through this circuit is

- a)  $0.625 \times 10^{19}$
- b)  $1.6 \times 10^{19}$
- c)  $1.6 \times 10^{-19}$
- d)  $0.625 \times 10^{-19}$



Q.72. Inductor does not allow the sudden change of

- a) current
- b) voltage
- c) power
- d) None of the above

Q.73. Internal resistance of ideal current source is

- a) zero
- b) infinite
- c) finite
- d) 100 ohms

Q.74. If a resistor is connected across the voltage source and the frequency of voltage and current wave form is 50Hz, then what is frequency of instantaneous power

- a) 0 Hz.
- b) 100 Hz.
- c) 50 Hz.
- d) 150 Hz.

Q.75. Average power taken by the pure capacitor is

- a) Zero
- b) Minimum
- c) Maximum
- d) Any of the above

Q.76. In ac RC series circuit total voltage is 10V and voltage across resistor is 6V, then what is voltage across capacitor?

- a) 4V
- b) 8V
- c) 16V
- d) 10V

Q.77. In RLC series circuit, at resonance condition the value of current is

- a) Maximum
- b) Minimum
- c) Zero
- d) None of the above

Q.102. A single phase transformer has specifications as 250 KVA, 11000 V/415 V, 50 Hz. What are the values of primary and secondary currents?

- a) primary = 22.7 A, secondary = 602.4 A
- b) primary = 602 A, secondary = 22.7 A
- c) primary = 301 A, secondary = 22.7 A
- d) primary = 11.4 A, secondary = 301 A

Q.103.  $R_1$  is the resistance of the primary winding of the transformer. The turn ratio in terms of primary to secondary is  $K$ . Then the equivalent resistance of the primary referred to secondary is

- a)  $R_1 / K$
- b)  $K^2 R_1$
- c)  $R_1 / K^2$
- d)  $K \times R_1$

Q.104. In a transformer

- a) both OC and SC tests are conducted on LV side
- b) OC test is conducted on LV side and SC test is conducted on HV side
- c) OC test is conducted on HV side and SC test is conducted on LV side
- d) both OC and SC tests are conducted on HV side

Q.105. The use of higher flux density in the transformer design

- a) reduces the weight per KVA
- b) increases the weight per KVA
- c) has no relation with the weight of transformer
- d) none of the above

Q.106. The right hand rule for determining the direction of the induced EMF was introduced by

- a) Faraday
- b) Lenz
- c) Fleming
- d) Maxwell

Q.107. Inside a hollow conducting sphere

- a) electric field is zero.
- b) electric field is a non zero constant.
- c) electric field changes with magnitude of the charge given to the conductor.
- d) electric field changes with distance from the center of the sphere.

Q.108. Two straight parallel conductors carry equal currents in opposite direction. The force between them is

- a) repulsive.
- b) attractive.
- c) zero.
- d) none of above.

Q.109. 1 Tesla =

- a) 1 wb- m2.
- b) 1 wb/ m2.
- c) 1 wb .
- d) 1 wb/m.

Q.110. What is the value of dielectric constant of air?

- a) Less than 1
- b) 0.
- c) 1.
- d) none of these.

Q.111. Cryogenics is a branch of science dealing with which of the following?

- a) High temperature.
- b) Low temperature.
- c) Friction and wear.
- d) Crystal growth.

Q.112. How many valence electrons would be found in an atom with the atomic number of 51?

- a) 5.
- b) 51.
- c) 8.
- d) none of above

Q.113. Two different isotopes of an element have different

- a) numbers of neutrons.
- b) numbers of electrons.
- c) atomic number.
- d) numbers of protons.

Q.114. Absolute permittivity of a dielectric medium is represented by

- a)  $\epsilon_0 / \epsilon_r$ .
- b)  $\epsilon_0 \epsilon_r$ .
- c)  $\epsilon_r / \epsilon_0$ .
- d) none of the above.

Q.115. The main advantage of dielectric heating is that

- a) heating occurs in the material itself.
- b) heating occurs due to high frequency.
- c) it can be used for drying the explosives.
- d) None of the above.

Q.116. Which lamps can be directly connected to a solar cell?

- a) Incandescent
- b) Metal Halide
- c) Compact Fluorescent
- d) LED

Q.117. Which among the following lamps has the maximum burning hours?

- a) LED.
- b) Incandescent.
- c) Metal halide.
- d) Compact Fluorescent.

Q.118. Output of the assembler in machine codes is referred to as

- a) Object program
- b) Source program
- c) Macroinstruction
- d) Symbolic addressing

Q.119. Strain Gauge is used to convert:

- a) Force into displacement
- b) Mechanical displacement into change in resistance
- c) Electric current into Mechanical displacement
- d) None of the above

Q.120. When we open an internet site, we see 'www' ? What is the full form of 'www'?

- a) World wide web
- b) World Wide Word
- c) Words Wise Web
- d) None of these

- Q.121. The speed of sound in air is approximately equal to:
- $3 \times 10^8$  m/sec
  - 330 m/sec
  - 5000 m/sec
  - 1500 m/sec
- Q.122. A CRO can display:
- D.C. signals only
  - A.C. Signals only
  - Both D.C. and A.C. Signals
  - Time - invariant Signals
- Q.123. Filters are used to convert
- Pulsating dc signal into a pure dc signal
  - Pure dc signal into a pulsating dc signal
  - Pulsating dc signal into a pure ac signal
  - Pulsating ac signal into a pure dc signal
- Q.124. Impurities are generally added in the pure semiconductor to
- increase the number of electrons
  - increase the number of holes
  - increase their conductivity
  - all of these
- Q.125. Heating element of electric iron box is an alloy of
- Copper and nickel
  - Nickel and cobalt
  - Iron and magnesium
  - Nickel and chromium
- Q.126. Slip ring induction motor has
- Low starting torque
  - Medium starting torque
  - High starting torque
  - None of these
- Q.127. The efficiency of the transformer will be maximum when
- Iron losses is equal to the twice of the copper losses
  - Copper losses is equal to the twice of the iron losses
  - Iron losses is equal to the copper losses
  - All of these

- Q.128. The two wattmeter method is applicable for
- Only star connected system
  - Only delta connected system
  - Both star connected and delta connected system
  - None of these
- Q.129. In HRC fuses, the space within the body surrounding the element is usually filled with
- Silver
  - Zinc
  - Quartz
  - Copper
- Q.130. For improving the soil condition and efficiency of earthing system, the pit area around the G.I. pipe is filled with
- Mixture of copper and nickel
  - Mixture of chloride and sodium
  - Mixture of aluminium and sulphate
  - Mixture of salt and coal
- Q.131. When an ac power is applied to a reactive load, then the voltage is
- In phase with the current
  - 90 degree out of phase with the current
  - 180 degree out of phase with the current
  - 270 degree out of phase with the current
- Q.132. The amount of work done in moving a charge from one point to another along an equipotential line or surface charge is
- Zero
  - Infinity
  - One
  - Two
- Q.133. If a number of resistors are connected in parallel, then the reciprocal of total resistance is equal to
- Sum of individual resistances
  - Sum of the reciprocal of individual resistances
  - Reciprocal of the sum of individual resistances
  - All of these

Q.134. Electrical energy can be converted into

- a. Light energy
- b. Electromagnetic energy
- c. Electrochemical energy
- d. All of these

Q.135. In transformer if the secondary is open circuited then its terminal voltage is

- a. Same as the induced emf
- b. Greater than the induced emf
- c. Lesser than the induced emf
- d. None of these

Q.136. The steel used for transformer laminations should have

- a. High permeability and high hysteresis
- b. High permeability and low hysteresis
- c. Low permeability and hysteresis
- d. Low permeability and high hysteresis

Q.137. In a star connected system, the current flowing through the line is

- a. Greater than the phase current
- b. Equal to the phase current
- c. Lesser than the phase current
- d. None of these

Q.138. Necessity of earthing is to

- a. Protect the human being from shock
- b. Maintain the line voltage
- c. Protect tall building
- d. All of these

Q.139. In half wave rectifiers, diode conducts during

- a. Only positive half cycle
- b. Only negative half cycle
- c. Both positive and negative half cycle
- d. Neither in positive half cycle nor in negative half cycle

Q.140. Which of the following motors is used in ceiling fan?

- a. universal Motor
- b. Synchronous motor
- c. Series Motor
- d. Induction Motor

Q.141. CT is used for measuring

- a. Voltage
- b. Frequency
- c. Power Factor
- d. Alternating Current

Q.142. Active Power in 3-phase circuit is

- a.  $3VI \sqrt{3} V_L I_L$
- b.  $3VI \cos \phi \sqrt{3} V_L I_L \cos \phi$
- c.  $2VI \cos \phi \sqrt{2} V_L I_L \cos \phi$
- d.  $2V_L \cos \phi 2 V_L I_L \cos \phi$

Q.143. Zener Diodes are commonly used as

- a. Rectifier
- b. Amplifier
- c. Voltage Regulator
- d. Filter

Q.144. The power factor of resistive circuit is

- a. Zero
- b. Leading
- c. Lagging
- d. Unity

Q.145. The unit of inductance is

- a. ohm
- b. Henry
- c. A/m
- d. A/s

Q.146. Kirchoff's current law states that

- a. sum of voltages at node is zero
- b. algebraic sum of current at node is zero
- c. sum of current at node
- d. algebraic sum of current in the loop is zero

Q.147. Overhead traction voltage of Electric Traction is

- a. 3 phase 33 KV
- b. 3 phase 25 KV
- c. Single Phase 25KV
- d. single Phase 33KV



Q.148. Transducer is a device which converts

- a. Electric energy into magnetic energy
- b. Vibration into electric energy
- c. any form of energy into another form of energy
- d. Pressure into electric energy

Q.149. In case of short circuit, \_\_\_\_\_ current will flow in the circuit

- a. Zero
- b. Very Low
- d. Normal
- d. Infinite

Q.150. If a 100W bulb is ON for 10 hrs , then what will be the amount of consumed Electricity?

- a. 100 Watts
- b. 100Watts per hour
- c. 1000 watts
- d. 1 KWH

Q.78. Time constant of RC series circuit is

- a)  $L/R$
- b)  $2RC$
- c)  $2L/R$
- d)  $RC$

Q.79. Which one of the following units is a fundamental unit?

- a) Newton
- b) Ampere
- c) Watt
- d) Joule/sec

Q.80. The Metric System is also called as:

- a) CGS
- b) MKS system
- c) SI
- d) None of the above

Q.81. A spring-controlled moving iron voltmeter draws a current of 1 mA for full scale value of 100V. If it draws a current of 0.5 mA, the meter reading is

- a) 25 V.
- b) 50 V.
- c) 100 V.
- d) 200 V.

Q.82. The terminals across the source are \_\_\_\_\_ if a current source is to be neglected.

- a) short circuited
- b) open circuited
- c) replaced by a source resistance
- d) replaced by a capacitor

Q.83. In which of the transformer is the secondary nearly short circuited under normal operating condition?

- a) PT.
- b) Power transformer.
- c) CT.
- d) Distribution transformer.

Q.84. A voltmeter has 100 scale divisions and can measure up to 100 V. Each division can be read to  $\frac{1}{2}$  division. The resolution of the voltmeter is

- a) 1 V
- b) 0.5 V
- c) 1.5 V
- d) 2 V

Q.85. To save energy during braking-----braking is used?

- a) dynamic
- b) plugging
- c) regenerative
- d) all of the above

Q.86. The concept of V/f control of inverters driving induction motors results in

- a) constant torque operation
- b) speed reversal
- c) reduced magnetic loss
- d) harmonic elimination

Q.87.----- was the first city in India to adopt electric traction.

- a) Delhi.
- b) Madras.
- c) Calcutta.
- d) Bombay.

Q.88. Speed control by variation of field flux results in

- a) constant power drive.
- b) constant torque drive.
- c) variable power drive.
- d) none of the above.

Q.89. Thin laminations are used in a machine in order to reduce

- a) Eddy current losses
- b) Hysteresis losses
- c) Both 1 and 2
- d) Copper losses

Q.90. A shunt generator is running at 1000 rpm. If flux is reduced by half, then what is the new speed?

- a) 1000.
- b) 2000.
- c) 500.
- d) 0.

Q.91. Find the number of poles required, when the frequency is 50Hz and speed of the motor is 500 rpm?

- a) 5
- b) 10
- c) 12
- d) 24

Q.92. A 4 pole 50 Hz induction motor is running at 1470 rpm. What is the slip value?

- a) 0.2
- b) 0.02
- c) 0.04
- d) 0.4

Q.93. A motor operates in stable region at which of the following slip?

- a) low slip region
- b) high slip region
- c) both 1 and 2
- d) unity slip

Q.94. In electric locomotives which of the following motor are used ?

- a) DC series motor.
- b) DC compound motor.
- c) Synchronous motor.
- d) DC Shunt motor.

Q.95. For a standard frequency the machine operates at a particular speed known as

- a) slip speed.
- b) normal speed.
- c) synchronous speed.
- d) any of the above.

Q.96. What is the highest possible speed of turbo alternators?

- a) 3000 rpm
- b) 1500 rpm
- c) 1000 rpm
- d) 4000 rpm

Q.97. For satisfactory performance of 3-phase 480V, 60 Hz induction motor, the supply voltage at 50 Hz should be equal to

- a) 480 V.
- b) 400 V.
- c) 420 V.
- d) 350 V.

Q.98. In a 3-phase induction motor, if the supply voltage and frequency are reduced by the same ratio, then slip at which maximum torque occurs is

- a) more and maximum torque remains constant
- b) more and maximum torque decreases
- c) less and maximum torque decreases
- d) less and maximum torque increases

Q.99. In a single phase induction motor, the starting torque developed is proportional to supply voltage V

- a)  $V^2$
- b)  $1/V^2$
- c)  $1/V$

Q.100. An alternator is feeding an infinite busbar. Its prime mover is suddenly shutdown. The alternator will

- a) continue to work as alternator but the direction of rotation will reverse.
- b) come to stand still.
- c) continue to work as synchronous motor with same direction of rotation.
- d) start working as induction motor.

Q.101. For an ideal transformer the winding should have

- a) maximum resistance on primary side and least resistance on secondary side
- b) minimum resistance on primary side and maximum resistance on secondary side
- c) equal resistance on primary and secondary side
- d) no ohmic resistance on either side