JVVNL

Previous Year Paper

Technical Helper 2013

कृपया ध्यान दें यह अत्यंत महत्त्वपूर्ण है

अपने उत्तर पत्र के अपना परीक्षार्थी क्रमांक* तथा QP कोड ** लिखिये तथा संबंधित वृत्तों को काला रंगिये, अन्यथा आपका उत्तरपत्र जांधा नहीं जा सकता है।

VERY IMPORTANT INSTRUCTIONS

WRITE AND DARKEN ON YOUR ANSWER SHEET YOUR ROLL NO.* AND QP CODE **.
OTHERWISE YOUR ANSWER SHEET MAY NOT BE ASSESSED.

1. परीक्षार्थी क्रमांक * ROLL NO.*		2. QP कोड ** QP CODE **	AW312
3. परीक्षा कोड EXAM CODE	AJJDVN - G1	4. प्रश्न पुस्तिका संख्या QUESTION BOOKLET NO.	700002

5. समय / DURATION	2 घंटे / 2 hours

1. इस पुस्तिका में निम्नालिखित दो प्रश्नावलियाँ हैं

   प्रश्नावली I – सामान्य स्चेतता प्र. क्र. 1 से 50

   प्रश्नावली II – तकनीकी ज्ञान प्र. क्र. 51 से 150

2. इन दोनों प्रश्नावलियों के उत्तर देने के लिये आपको कुल 2 घंटे का समय दिया जाएगा । प्रश्नावलियों के लिये अलग अलग समय नहीं है। आप अपनी इच्छा के अनुसार का संविभाजन कर सकते हैं।

3. दोनों परीक्षणों को हिन्दी और अंग्रेज़ी दोनों में मुद्रित किया गया है। पहले हिन्दी में फिर अंग्रेज़ी में (मुद्रित किया गया है)।

4. अगर आप गलत उत्तर देंते तो दंडस्वरुप आपके अंकों में कटौती नहीं की जायेगी।

5. रफ काम, यदी आप करना चाहें, तों इस पुस्तिका में ही करना चाहिये न कि उत्तरपत्र पर। इस हेतु हाशिये की अथवा अन्यत्र उपलब्ध खाली जगह का उपयोग कीजीये। अन्य किसी कागज का उपयोग न कीजिये।

6. अपने उत्तर अलग उत्तरपत्र पर केवल काले बॉल पॉइंट पेन का प्रयोग कर दर्शाइये। उत्तर दर्शाने के लिये उत्तरपत्र में दिये गये अनुदेशों का पालन कीजिये।

7. जब तक निर्देश मिलने पर पुस्तिका के बाँये किनारे में लगे हुए मुडे हुए तार निकालने का प्रयास न करें । पेन के निचले सिरे की सहायता से मुखपृष्ठ को दाहिनी ओर से काट कर खोलिये।

8. पुस्तिका खोलते ही जाँच लीजीये कि सभी पृष्ठ जिन **पर प्र.1 से 150** है योग्य प्रकार से छपे हुए हैं और फिर प्रश्नावलियों के उत्तर देना प्रारंभ कीजीये। यदि पुस्तिका दोषपूर्ण हो तो उसी प्रश्नावली QP कोड दूसरी प्रश्नपुस्तिका से बदलवा लीजिये।

1. This Booklet contains **two** tests as follows :
   Test I - General Awareness Q. Nos. 1 to 50
   Test II - Technical Knowledge Q. Nos. 51 to 150

2. You will be given an aggregate time of **2 hours** to Answer both the tests. The tests are not separately timed. You may distribute the time as you please.

3. Both the tests are printed first in Hindi followed by English.

4. There is no penalty for wrong answers marked by you.

5. Rough work, if you want to do any, is to be done in this booklet itself and **not on the answer sheet**. For this purpose use the empty space in the margin or anywhere else you find in this booklet. Do not use any other paper.

6. Indicate your answers on the **separate** answer sheet, using **black ball point pen only**. Follow the instructions given on the answer sheet for indicating your answers.

7. Do not open the booklet until you are told to do so. When the instruction for opening the booklet is given, do not try to remove the wire staples at the left. Insert the blunt end of your pen under the cover from the top or the bottom edge and tear open along the right hand edge.

8. Immediately after opening the booklet verify that all the pages containing questions **from 1 to 150** are properly printed in your booklet and then begin answering the test. In case the booklet is defective get it replaced by another test booklet bearing the same QP Code.

TEST - A

1. Gandhi practised law in-

(A) Zimbabwe (B) South Africa (C) Nigeria (D) Argentina (E) Algeria

2. Who is the first lady Chief Minister of Rajasthan?

(A) Kamala Beniwal (B) Vasundhara Raje (C) Namrata Bhatt (D) Sucheta Kriplani (E) Sushma Swaraj

3. Which among the following is the largest lake in Rajasthan?

(A) Hussain Sagar (B) Sambhar Salt (C) Manasarovar (D) Nal Sarovar (E) Pichola

4. ASEAN refers to the Association of South-East _____.

(A) Asian Nations (B) Arab Nations (C) American Nations (D) African Nations (E) None of these

5. A Geiger counter is used to measure-

(A) Altitude (B) Charged radioactive products
(C) Temperature (D) Earthquakes (E) Pressure

6. Worker's Day is celebrated on-

(A) 5th May (B) 1st April (C) 1st May (D) 1st November (E) 4th April

7. Who is the present Governor of Rajasthan?

(A) Vasundhara Raje (B) Shivaraj Patil (C) Namrata Bhatt (D) Prabha Rau (E) Margaret Alva

8. Find out the difference between simple interest on Rs. 600 for 4 years at the rate of 5% and 10%.

(A) Rs. 400 (B) Rs. 200 (C) Rs.150 (D) Rs. 120 (E) Rs. 240

9. In UNICEF, "C" stands for?

(A) Council (B) Children (C) Company (D) Committee (E) Corporation

10. With which game is "Thomas Cup" associated?

(A) Rugby (B) Badminton (C) Polo (D) Hockey (E) Golf

11. Mawat means:

(A) Rainfall which occurs due to winter cyclones (B) Rainfall from the Arabian monsoons
(C) Rainfall from retreating monsoons (D) A type of Animal (E) Hailstorm

12. From which city of Rajasthan does the famous Dhol dance originate?

(A) Alwar (B) Kota (C) Jaipur (D) Udaipur (E) Jalore

13. 8 men can complete an assignment in 9 days. For getting the same work completed in 8 days, how many men will be employed?

(A) 10 (B) 9 (C) 7 (D) 6 (E) 5

14. "Operation flood" relates to-

(A) Sea food industry (B) Oil and natural gas exploration
(C) Processed food industry (D) Agricultural industry (E) Dairy industry

15. Anantnag, Pahalgam and Kupwara are located in-

(A) Jammu & Kashmir (B) Himachal Pradesh (C) Rajasthan (D) Uttaranchal (E) Gujarat

16. For what is the Bharatpur sanctuary in Rajasthan famous?

(A) Tiger (B) Birds (C) Crocodiles (D) Elephants (E) Asiatic Lion

17. When a person weighing 68 kg is replaced by a new person, the average weight of 10 persons increases by 1½ kg. What will be the weight of the new person?

(A) 82 kg (B) 83 kg (C) 79 kg (D) 80 kg (E) 81 kg

18. Where is the only temple for Ravana in North India?

(A) Jaipur (B) Sirohi (C) Udaipur (D) Jodhpur (E) Bikaner

19. Which is the capital of France?

(A) Amsterdam (B) Paris (C) Rome (D) Cannes (E) Madrid

20. Who was the first Prime Minister of independent India?

(A) Dr. Rajendra Prasad (B) C.Rajgopalachari (C) Jawahar Lal Nehru (D) Lal Bahadur Shastri (E) Vallabhai Patel

21. Which is the largest cricket ground of the world?

(A) Mohali (B) Eden Gardens (C) Melbourne (D) Wankhade (E) Lords

22. Where has the foundation for the world's largest solar park been laid?

(A) Bhadla (B) Lolawas (C) Jelva (D) Balesar (E) Netra

23. On what date, was Quit India movement launched?

(A) 8th August 1942 (B) 15th August 1942 (C) 26th January 1943 (D) 20th June 1942 (E) 2nd October 1943

24. Who is called the "Father of Genetics"?

(A) Einstein (B) Mendel (C) Pasteur (D) Darwin (E) Wright

25. Name the country which is NOT a member of SAARC.

(A) Nepal (B) Myanmar (C) Maldives (D) India (E) Bangladesh

26. "Lactometer" is used to determine-

(A) Hydrogen in water (B) Purity of petrol (C) Purity of milk (D) Purity of water (E) None of these

27. A 100 metre long train crosses a pole in 8 seconds. What is its speed in kilometres per hour?

(A) 80 (B) 36 (C) 45 (D) 54 (E) 60

28. Who wrote "The Discovery of India"?

(A) E.M.Foster (B) Ruskin Bond (C) Khushwant Singh (D) Mahatma Gandhi (E) Jawaharlal Nehru

29. "Central Camel Breeding Centre" in Rajasthan is in which district?

(A) Bundi (B) Jaisalmer (C) Jodhpur (D) Rajsamand (E) Ajmer

30. From which year was Euro adopted as the official currency of Europe?

(A) 2000 (B) 2001 (C) 2002 (D) 2003 (E) 1999

31. Which is the eastern most district of Rajasthan?

(A) Ajmer (B) Bundi (C) Bikaner (D) Jodhpur (E) Dhaulpur

32. Who invented "logarithms"?

(A) Amundson (B) John Napier (C) Mendeleef (D) Einstein (E) None of these

33. 7½ - 6¾ + 5¼ = ?

(A) 5¾ (B) 19½ (C) 6 (D) 5½ (E) 5

34. A chair is sold at a profit of 10% for Rs. 220. Its cost price is:

(A) Rs. 200 (B) Rs. 210 (C) Rs. 180 (D) Rs. 220 (E) Rs. 240

35. Who is the Union Minister of State for power?

(A) J.M.Schindia (B) G.K.Vasan (C) Jairam Ramesh (D) Sriprakash Jaiswal (E) Farooq Abdulla

36. The camel's hump is a store of-

(A) Water (B) Fat (C) Starch (D) Protein (E) All of these

37. Which is the highest peak of Rajasthan?

(A) Achalgarh (B) Jarga (C) Ser (D) Guru Shikhar (E) Kho

38. In which city of Rajasthan is the observatory of the Indian Weather Department located?

(A) Jodhpur (B) Kota (C) Jaipur (D) Bikaner (E) Udaipur

39. Junagarh fort is in:

(A) Nagore (B) Abu (C) Ranthambore (D) Kumbalgarh (E) Bikaner

40. Which city is NOT in Uttar Pradesh?

(A) Varanasi (B) Lalitpur (C) Kanpur (D) Agra (E) Nagpur

41. The source of river Banas is:

(A) Khamnor Hills (B) Bairath Hills (C) Kumbhalgarh Hills (D) Gogunda Hills (E) None of these

42. Nelson Mandela was the President of-

(A) Nigeria (B) Tanzania (C) Zimbabwe (D) Ethiopia (E) South Africa

43. With which game is the term "Tee" associated?

(A) Golf (B) Shooting (C) Archery (D) Tennis (E) Billiards

44. Vitamin-C is richly found in-

(A) Milk (B) Apple (C) Lemon (D) Cereals (E) None of these

45. Who wrote the song "Vande Matram"?

(A) Rabindranath Tagore (B) Bankim Chandra Chatterji
(C) Prof. Iqbal (D) Sarojini Naidu (E) None of these

46. Which State in India produces the largest amount of wheat?

(A) Madhya Pradesh (B) Punjab (C) Haryana (D) West Bengal (E) Uttar Pradesh

47. Who of the following kings had built the Fort of Chittor?

(A) Chitrangad (B) Sathadhanvan (C) Deva varman (D) Samprati (E) Rana Pratap

48. Who established the Pink City?

(A) Maninder Singh (B) Bhagwan Das (C) Mirza Raja Jai Singh (D) Prithviraj Chauhan (E) Sawai Jai Singh

49. Deficiency of iron in the diet causes-

(A) Anaemia (B) Gout (C) Rickets (D) Night Blindness (E) Beri-Beri

50. "Ornithology" deals with-

(A) Study of birds (B) Education (C) Origin of species (D) Study of insects (E) None of these

TEST - B

51. A substance that has a high retentivity can be used for the manufacture of _____.
(A) Electromagnet (B) Permanent magnets (C) Temporary magnets (D) Paramagnets (E) None of these

52. Which of the following has almost no change in resistance with temperature change?
(A) Nickel (B) Nichrome (C) Platinum (D) Manganin (E) Aluminium

53. If the size of the circuit copper conductor is 10 sq. mm, then the size of the earth conductor in G.I wire should be :
(A) 1.5 sq. mm (B) 2.5 sq. mm (C) 5 sq. mm (D) 10 sq. mm (E) 15 sq. mm

54. Invertor converts-
(A) DC to AC (B) AC to DC (C) DC to DC (D) AC to AC (E) None of these

55. What is the normal voltage of a fully charged lead acid cell?
(A) 1.1 V (B) 2.2 V (C) 1.5 V (D) 3 V (E) 4.1 V

56. A material that is slightly repelled by a magnet is called _____.
(A) Magnetic (B) Paramagnetic (C) Diamagnetic (D) Ferromagnetic (E) Semi-magnetic

57. The acting contacts for a medium/high voltage circuit breaker are made of-
(A) Stainless steel (B) Hard pressed carbon (C) Porcelain (D) Copper tungsten alloy (E) Both (B) and (C)

58. Cooling of transformer is necessary to -
(A) Increase the efficiency (B) Reduce the losses (C) Reduce humming (D) Reduce production cost (E) Dissipate the heat

59. Severity of electrical shock will be higher in which of the following?
(A) Dry skin (B) Thick skin (C) Thin skin (D) Wet skin (E) Will be the same on all skins

60. The fuse operates due to the _____ effect of current.
(A) Magnetic (B) Electrostatic (C) Heating (D) Chemical (E) None of these

61. What is the inter layer insulation for small transformers?
(A) Mica (B) Butter paper (C) Leatheroid paper (D) Varnish (E) Any of these

62. An insulated conductor used in a switchboard shall be _____.
(A) Listed (B) Flame retardant
(C) Rated not less than the voltage applied to other conductors or busbars with which it may come in contact (D) Both (A) and (B) (E) All of these

63. A motor has become thoroughly wet because of exposure to heavy rains. Before operating the motor, it is necessary to dry it out by-
(A) Wiping it dry with a clean cloth (B) Keeping it under a ceiling fan
(C) Blowing hot air by using air blower (D) Placing it in an oven (E) Any of these

64. Normally busbar should not be erected at a height less than-
(A) 2.1 m (B) 2.75 m (C) 3.2 m (D) 4.1 m (E) 5.2 m

65. Base and covers of the wiring accessories are made of:
(A) Ignitable material (B) Non-ignitable material (C) Conductive material (D) Corrosion resistive material (E) Heat resistive material

66. Phase relationship between the applied voltage and the current flowing through the inductive circuit is:
(A) Current leads the voltage (B) Voltage lags the current (C) Current lags the voltage (D) Current in phase with the voltage (E) None of these

67. The illumination required for a work place where fine work is performed will be in the order of-
(A) 500 lumens / sq. meter (B) 1000 lumens / sq. meter (C) 1500 lumens / sq. meter (D) 2000 lumens / sq. meter (E) 2500 lumens / sq. meter

68. Transmission line insulators are generally made up of :
(A) Glass (B) Porcelain (C) PVC (D) Iron (E) Asbestos

69. Power companies are interested in improving the power factor to _____.
(A) Reduce the line current (B) Increase the motor efficiency (C) Increase the volt-amperes (D) Decrease the power (E) Increase the power

70. In cables, the thickness of the layer of insulation on the conductor depends upon:
(A) Current capacity (B) Voltage (C) Power factor (D) Reactive power (E) Temperature

71. Which of the following is the primary function of the fuse?
(A) To protect the operator (B) To protect the line
(C) To prevent excessive current (D) To open the circuit (E) All of these

72. The domestic voltage of 240V AC is called _____ voltage.
(A) Low tension voltage (B) High tension voltage (C) Earth (D) Neutral (E) Line voltage

73. What is the material used inside the breather to prevent moisture entering the transformer?
(A) Copper sulphate (B) Sodium chloride (C) Sodium silicate (D) Silica gel (E) Potassium Chloride

74. What are the disadvantages of shaded pole motors?
(A) Low efficiency (B) Low starting torque
(C) Very little overload capacity (D) None of these (E) All (A), (B), (C)

75. Which conductors connects the consumer's terminals to distribution?
(A) Service Mains (B) Feeders (C) Distributors (D) Both (B) & C (E) None of these

76. A moving iron ammeter reads 10 A. What is the peak current of the oscillation?
(A) 7.07 A (B) 1.414 A (C) 70.7 A (D) 28.2 A (E) 14.1 A

77. The disadvantage in underground cable system is:
(A) Frequent arcing grounds (B) Difficult earth fault relaying
(C) Voltage oscillations (D) All of these (E) Only (A) and (B)

78. On inspection, the commutator of a DC generator was found badly worn out. Sand papering is of no use. The best thing to do is to-
(A) Turn the commutator on a lathe (B) Clean the commutator with CTC
(C) Replace the commutator (D) Replace the armature (E) None of these

79. Soft connections are used to transform-
(A) Single phase supply into three phase supply (B) Single phase supply into two phase supply
(C) Three phase supply into single phase supply (D) Star connected primary into delta connected secondary (E) None of these

80. A light emitting diode produces light when it is:
(A) Unbiased (B) Forward biased (C) Reverse biased (D) None of these (E) Any of (A),(B),(C)

81. A half wave rectifier is suitable only for :
(A) Car radios (B) Battery charging (C) Variable speed AC motors (D) Electroplating (E) None of these

82. LCD stands for _____.
(A) Logical Code Display (B) Light Crystal Diode
(C) Liquid Character Display (D) Logical Character Display (E) Liquid Crystal Display

83. Bending angle of the hard drawn bare copper conductor for Brittania joint should be:
(A) 60° (B) 45° (C) 90° (D) 120° (E) 180°

84. Which of the following transformer is used for supplying general power and lighting?
(A) Substation transformer (B) Power transformer
(C) General purpose transformer (D) Distribution transformer (E) None of these

85. MCB is more reliable than:
(A) Switches (B) Fuses (C) Circuit breakers (D) Power sockets (E) All of these

86. Thermal relays are often used in:
(A) Generator protection (B) Transformer protection (C) Motor starters (D) Both (A) and (B) (E) None of these

87. You have to rewind a motor whose operating temperature is about 130°C. Which insulating material would you select?
(A) Fibre (B) Mica (C) Cotton (D) Paper immersed in oil (E) Leatheroid paper

88. The phase voltage of a star-connected, 3-phase circuit is 230 V. The line voltage will be-
(A) 210 V (B) 220 V (C) 230 V (D) 415 V (E) 400 V

89. A wire measuring one mm diameter has a cross sectional area of _____.
(A) One mm^2 (B) One cm^2 (C) 0.78 mm^2 (D) 0.87 mm^2 (E) None of these

90. Which one of the following derived units of SI system is wrongly matched?
(A) Force - Newton (B) Pressure - Pascal (C) Work - Volt (D) Electrical Conductance - Siemens (E) Magnetic Flux Density - Tesla

91. If the resistance of the coil is 15 ohms, impedance of the coil is 25 ohms, the inductive reactance will be :
(A) 20 ohms (B) 400 ohms (C) 40 ohms (D) 10 ohms (E) 2 ohms

92. The equivalent of 1" in metric is ___
(A) 2.54 mm (B) 25.4 mm (C) 25.44 mm (D) 25.5 mm (E) 254.4 mm

93. A thermocouple is used to measure -
(A) Voltage (B) High temperatures (C) Potential difference (D) Low temperatures (E) Pressure

94. Which of the following material has the highest electrical conductivity?
(A) Steel (B) Silver (C) Aluminium (D) Lead (E) Zinc

95. Why are AC magnets made of laminated iron?
(A) For reducing the heating effect (B) To get better induction
(C) For AC and DC use (D) For reducing costs (E) None of these

96. The maximum permissible load in a lighting sub-circuit is :
(A) 800W (B) 850W (C) 875W (D) 880W (E) 900 W

97. Dielectric strength is the fundamental property of -
(A) Conductors (B) Insulators (C) Semiconductor (D) Super conductors (E) None of these

98. When the tube lamp is switched "on", there is some vibrating sound from the choke. This is due to loose _____.
(A) Connection in the choke (B) Winding turns (C) Core (D) Screws in the cover (E) None of these

99. Field coils are wound with:
(A) Enamelled copper wire (B) Steel wires (C) Bare copper wire (D) Stainless steel wire (E) Aluminium wires

100. A wire has resistance 16 Ω. It is bent in the form of a circle. The effective resistance between the two points on any diameter of the circle is :
(A) 16Ω (B) 32Ω (C) 8Ω (D) 4Ω (E) 2Ω

101. When installing pipe electrodes, one end of the pipe shall be kept atleast _____cm above the ground.
(A) 2.5 (B) 5 (C) 10 (D) 20 (E) 40

102. The wave form of the output voltage generated by an alternator is :
(A) Square wave (B) Triangular wave (C) Sawtooth wave (D) Sinusoidal wave (E) Linear wave

103. A soft graphite brush has contact area of 5 sq cms and if the current density of the material is 9A/cm², how much current can it carry?
(A) 45 A (B) 35 A (C) 42 A (D) 50 A (E) 60 A

104. In an open circuit-
(A) Both resistance and current are zero (B) Both resistance and current are infinity
(C) Resistance is zero and current is infinity (D) Resistance is infinity and current is zero (E) Resistance alone is infinity

105. Junction box method of wiring is more economical with respect to:
(A) Cable length (B) Labour (C) Cost (D) Both (B) & (C) (E) All of these

106. Which of the following is also called universal bias?
(A) Emitter bias (B) Voltage divider bias (C) Base bias (D) Collector Bias (E) None of these

107. The function of a Zener diode is to maintain a constant-
(A) Input voltage (B) Output voltage
(C) Supply of current (D) Output current irrespective of load resistance (E) Input current

108. Overhead lines can be designed for operation upto:
(A) 11 KV (B) 400 KV (C) 66 KV (D) 33 KV (E) 22 KV

109. To prevent local action in battery, only _____ is used in electrolytes.
(A) Pump water (B) Distilled water (C) Tap water (D) Both (A) and (C) (E) Chlorinated water

110. A motor rated to run at 440 V is running on normal voltage. Suddenly the voltage is dropped to 340V. The motor will -
(A) Stop immediately (B) Heat up excessively (C) Run in reverse direction (D) Draw reduced current (E) Stop, but start again

111. Which of the following is NOT a standard transmission voltage?
(A) 132 KV (B) 222 KV (C) 400 KV (D) 750 KV (E) None of these

112. Where are Buchholz relays used?
(A) Transformers (B) Thermocouples (C) Circuit Breakers (D) Thermostats (E) All of these

113. Power wiring should be protected by :
(A) Switches and fuses (B) Switches and MCB (C) Fuses or MCB (D) Switches or fuses (E) None of these

114. The usual span with RCC poles are:
(A) 80-100 m (B) 60-100 m (C) 40-50 m (D) 300-500 m (E) 500-1000 m

115. The main purpose of oil in an oil circuit breaker is to _____.
(A) Prevent oxidation of movable and fixed contacts (B) Extinguish the arc developed across the contacts
(C) Minimise the friction resistance between the movable and fixed contact (D) Serve as a lubricant for the mechanical parts of the breaker (E) None of these

116. In a 220 V DC machine, the shunt field resistance is found to be 440 ohms. What is the value of the shunt field current?
(A) 0.2 A (B) 0.5 A (C) 2.0 A (D) 5.0 A (E) 1.0 A

117. Inductance of a coil depends upon -
(A) Number of lines (B) Area of the coil (C) Length of the coil (D) All (A),(B),(C) (E) None of these

118. Laying of concealed wiring in roof starts soon after_____is completed.
(A) Pouring of concrete (B) Centering (C) Shuttering (D) Load bearing (E) At any of these stages

119. The function of interpoles in a D.C. machine is to -
(A) Reduce field winding heating (B) Improve commutation
(C) Reduce losses (D) Compensate for air gap variation (E) All of these

120. The ratio of the R.M.S value to the average value of A.C is called:
(A) Permeability (B) Specific resistance (C) Form factor (D) Armature reaction (E) Susceptance

121. Which circuit breaker requires compressed air for its functioning?
(A) ACB (B) ABCB (C) OCB (D) MCB (E) None of these

122. How many poles does a rotating magnetic field of a 3-phase, 400 V, 50 Hz induction motor have a rated speed of 715 r.p.m.?
(A) 2 poles (B) 4 poles (C) 6 poles (D) 7 poles (E) 8 poles

123. A choke is used as a resistance in :
(A) A.C circuits (B) D.C circuits
(C) Half-wave rectifier circuits (D) Both A.C and D.C circuits (E) All of these

124. A DC generator works on the principle of:
(A) Faraday's laws of electrolysis (B) Mutual induction
(C) Lenz's law (D) Faraday's law of electro-magnetic induction (E) Pascal's Law

125. Which of the following fire extinguishers is suitable for a live electrical fire?
(A) Halon (B) Water (C) Foam (D) Liquified chemical (E) Sand

126. If a DC motor starts with jerk when starting, what may be the reason?
(A) Line voltage too high (B) Short circuit of the field wiring
(C) Pitted starter contact terminals (D) Wrong grade of carbon bushes (E) Open circuit

127. A heater draws a current of 4 Amperes at 250 Volts. How much power does it consume?
(A) 2 Kilo watts (B) 1 Kilo watts (C) 8 Kilo watts (D) 6 Kilo watts (E) 4 Kilo watts

128. If a motor operates satisfactorily at no load, but loses power and speed at full load, the reason may be-
(A) There is a short circuit in the winding (B) There is a open circuit in the winding
(C) The supply voltage is too high (D) The supply voltage is too low (E) None of these

129. The phase difference between any two phases of a 3-phase supply is :
(A) 60° (B) 90° (C) 120° (D) 180° (E) None of these

130. In domestic wiring, a switch is always placed in the -
(A) Earth wire (B) Neutral wire (C) Live wire (D) Earth or neutral wire (E) Any of these

131. The thermal relay works on the principle of :
(A) Mechanical effect (B) Heating effect (C) Chemical effect (D) Radiation effect (E) Electromagnetic effect

132. Potential transformers are used to connect _____ .
(A) Voltmeters to the transformer primary (B) Instruments to busbar of distribution panel
(C) Voltmeter to high voltage lines (D) Energy meters to low-voltage lines (E) None of these

133. If the fan is running slowly, the reason may be -
(A) Rotor winding open (B) Field winding open (C) Capacitor open (D) Regulator short (E) Rotor winding short

134. The minimum gauge of copper earth wire to be used for a 3-pin 15 A, 250V socket is :
(A) 12 SWG (B) 14 SWG (C) 15 SWG (D) 16 SWG (E) 18 SWG

135. How many light points can be allowed in one circuit?
(A) 5 points (B) 15 points (C) 20 points (D) 30 points (E) 10 points

136. The unit of illumination is:
(A) Decibel (B) Henry (C) Coulomb (D) Lux (E) Tesla

137. In busbar system, tapping of supply to the service connections are made by connecting the service cables through_____.
(A) Lugs to the busbar (B) Bolts and Nuts (C) Clamp on devices (D) Plug in boxes (E) None of these

138. Cells are connected in parallel to :
(A) Increase the current capacity (B) Increase the voltage output (C) Decrease the voltage output (D) Decrease the current capacity (E) Increase both current and voltage

139. Which of the following are types of resistors?
(A) Wire wound (B) Carbon resistors (C) Carbon metal film resistors (D) (A), (B) & (C) (E) None of these

140. The ground (earth) point in an electrical socket provides the easiest path for the _____.
(A) Main's current (B) Load voltage (C) Load current (D) Leakage current (E) All of these

141. When using a Megger, you must avoid touching -
(A) The positive lead (B) The negative lead (C) Both leads at the same time (D) Either lead (E) Same lead twice

142. In which type of AC to DC converter, losses are less and efficiency is higher?
(A) M.G set (B) Rotary converter (C) Mercury arc rectifier (D) Metal rectifier (E) None of these

143. Which of the following meters cannot measure both DC as well as AC?
(A) Moving iron meter (B) Thermocouple meter (C) Dynamometer (D) Induction-type meter (E) None of these

144. Which of the following is the reason for copper loss in a transformer?
(A) Power loss caused by eddy current (B) Power loss caused by resistance
(C) Power loss by counter emf (D) Power loss by heat (E) None of these

145. Underground cables are classified into 3 types according to their voltage capacity. The voltage rating of HT cable is above 1.1 KV upto _____.
(A) 9.4 KV (B) 11.0 KV (C) 3.3 KV (D) 6.6 KV (E) 15.0 KV

146. Persons _____ are easy targets of lightning attacks.
(A) Inside a house (B) Inside a car (C) Inside a submarine (D) Lying on the ground (E) In an open field

147. In a step up transformer, the turns ratio is ____.
(A) 1 (B) < 1 (C) > 1 (D) None of these (E) Any of (A),(B),(C)

148. Radius of bends used in conduit wiring should not be less than _____ cm.
(A) 3 (B) 5 (C) 6 (D) 7.5 (E) 9

149. In DC generators, the pole shoes are fastened to the pole by:
(A) Welding (B) Brazing (C) Rivets (D) Counter sunk screws (E) Soldering

150. The distributors for residential areas are:
(A) Three phase four wire (B) Three phase three wire (C) Single phase (D) Either (A) or (C) (E) None of these

PAPER CODE :AJJDVN_G1 **VERSION - 2 (#)**

SECTION - A

QNO	KEY
1	B
2	B
3	B
4	A
5	B
6	C
7	E
8	D
9	B
10	B
11	A
12	E
13	B
14	E
15	A
16	B
17	B
18	D
19	B
20	C
21	C
22	A
23	A
24	B
25	B
26	C
27	C
28	E
29	NULLIFIED
30	C
31	E
32	B
33	C
34	A
35	A
36	B
37	D
38	NULLIFIED
39	E
40	E
41	A
42	E
43	A

SECTION - B

QNO	KEY
51	B
52	D
53	D
54	A
55	B
56	C
57	D
58	D
59	D
60	C
61	B
62	E
63	D
64	B
65	B
66	C
67	C
68	B
69	A
70	B
71	C
72	A
73	D
74	E
75	A
76	D
77	NULLIFIED
78	A
79	NULLIFIED
80	B
81	B
82	E
83	C
84	D
85	B
86	C
87	B
88	E
89	C
90	C
91	A
92	B
93	B

SECTION - B

QNO	KEY
101	NULLIFIED
102	D
103	A
104	D
105	NULLIFIED
106	B
107	B
108	B
109	B
110	B
111	B
112	A
113	C
114	NULLIFIED
115	B
116	B
117	D
118	B
119	B
120	C
121	B
122	E
123	A
124	D
125	A
126	C
127	B
128	NULLIFIED
129	C
130	C
131	B
132	C
133	C
134	NULLIFIED
135	E
136	D
137	A
138	A
139	D
140	D
141	C
142	D
143	E

44	C
45	B
46	E
47	A
48	E
49	A
50	A

94	B
95	A
96	A
97	B
98	C
99	A
100	D

144	B
145	B
146	E
147	NULLIFIED
148	NULLIFIED
149	D
150	D