

GOVERNMENT OF MIZORAM
POWER & ELECTRICITY DEPARTMENT

COMPETITIVE EXAMINATION FOR RECRUITMENT TO
THE POST OF ELECTRICIAN GRADE-II
(JUNE-2026)

PAPER-III
(TECHNICAL SUBJECT)

Full Marks : 200
Time Allowed : 3 Hours

Signature of Invigilator _____

CODE :

(For official use)

SUBJECT	MARK CARRIED BY EACH QUESTION / TOPIC	NO. OF CORRECT ANSWERS	MARKS OBTAINED
Technical Subject	2		
TOTAL			

Signature of Examiner : _____

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All questions carry 2 marks each.

Put a tick (✓) mark against the correct answer in the space given in each question.

If a candidate gives more than one answer to one question, it will be treated as wrong answer even if one of the given answers happens to be correct.

TECHNICAL SUBJECT (200 MARKS)

1. The colour of neutral wire in 3 core flexible cable is:
(a) Black ()
(b) Brown ()
(c) Green ()
(d) **Blue** ()
2. According to the IS code, the colour of earth wire is usually:
(a) Red ()
(b) **Green** ()
(c) Yellow ()
(d) Black ()
3. According to BIS, the panel board and meter board are to be kept at the height of:
(a) 1.2 m ()
(b) 1.8 m ()
(c) 2.5 m ()
(d) **1.5 m** ()
4. Switch should be connected on:
(a) Neutral wire ()
(b) **Phase wire** ()
(c) Earth wire ()
(d) Half wire ()
5. Sheaths are used in underground to:
(a) Provide proper insulation ()
(b) Provide mechanical strength ()
(c) Control the cable ()
(d) **Protect the cable from moisture** ()
6. The minimum clearance of the High Voltage(HV) of line from the ground across the road should be:
(a) **6.1 m** ()
(b) 5.1 m ()
(c) 3.1 m ()
(d) 8.1 m ()

7. According to the Indian electricity rule, the permissible frequency fluctuation range is:
- (a) $\pm 3\%$ ()
 - (b) $\pm 0.5\%$ ()
 - (c) $\pm 0.0\%$ ()
 - (d) $\pm 5\%$ ()
8. Cables used for underground services from 00kV to 01 kV are:
- (a) Extra High Tension cables ()
 - (b) High Tension cables ()
 - (c) Super Tension cables ()
 - (d) **Low Tension cables** ()
9. The SI unit of both self and mutual inductance is:
- (a) Tesla ()
 - (b) Weber ()
 - (c) **Henry** ()
 - (d) Faraday ()
10. Which of the following material is not magnetic:
- (a) Iron ()
 - (b) Nickel ()
 - (c) Cobalt ()
 - (d) **Aluminium** ()
11. The power factor is defined as the ratio of:
- (a) **Active power to apparent power** ()
 - (b) Reactive power to apparent power ()
 - (c) Active power to reactive power ()
 - (d) Apparent power to active power ()
12. As per IE rules, what is the maximum load allowed on a single lighting sub circuit in a domestic wiring.
- (a) 500W ()
 - (b) **800W** ()
 - (c) 1000W ()
 - (d) 1200W ()
13. In Wheatstone bridge, bridge balance is considered where:
- (a) **There is no current that flows through the Galvanometer** ()
 - (b) There is current that flows through the Galvanometer ()
 - (c) There is potential difference between Galvanometer terminals ()
 - (d) The galvanometer reading is maximum ()
14. Which of the following material has nearly zero temperature coefficient of resistance?
- (a) Carbon ()
 - (b) Porcelain ()
 - (c) Copper ()
 - (d) **Manganin** ()

15. Active power is measured in:
- (a) Volt-Ampere(VA) ()
 - (b) Volt-Ampere Reactive(VAR) ()
 - (c) **Watts(W)** ()
 - (d) Joules(J) ()
16. Why the soldering iron must be kept into a stand during not in use while soldering?
- (a) **It prevents burns and fire** ()
 - (b) To control the excessive heat ()
 - (c) To save the time of soldering process ()
 - (d) To save the operator from electric shock ()
17. Two resistors are said to be connected in series when:
- (a) Both carry the same value of current ()
 - (b) Total current equals the sum of branch currents ()
 - (c) Sum of IR drops equals applied emf ()
 - (d) **Same current passes in turn through both conductors** ()
18. The resistance of a 100 W, 200V lamp is:
- (a) 100Ω ()
 - (b) 200Ω ()
 - (c) **400Ω** ()
 - (d) 1600Ω ()
19. What does the fore finger indicate in the Fleming's Right hand rule?
- (a) Direction of motion of conductor ()
 - (b) Direction of induced current ()
 - (c) Direction of motion of coil ()
 - (d) **Direction of the magnetic field** ()
20. The products formed at Cathode and Anode by electrolysis of Aqueous Sodium Chloride(NaCl) solution respectively are:
- (a) Na, Cl_2 ()
 - (b) Na, O_2 ()
 - (c) **H_2 , Cl_2** ()
 - (d) H_2 , O_2 ()
21. RMS stands for:
- (a) **Root Mean Square** ()
 - (b) Root Mean Sum ()
 - (c) Root Maximum Sum ()
 - (d) Root Minimum Sum ()
22. What is the Electrolyte used in a lead Acid battery?
- (a) Ammonium Chloride ()
 - (b) Nitric Acid ()
 - (c) **Dilute Sulphuric Acid** ()
 - (d) Sodium Chloride ()

23. What is the purpose of fuse cut out provided at the incoming power supply?
- (a) **To ensure line is not over loaded** ()
 - (b) To maintain the stabilized supply voltage ()
 - (c) To protect the human beings from electric shock ()
 - (d) To protect the current from the leakage current ()
24. Fans and lamps in domestic installation are connected in:
- (a) Series ()
 - (b) **Parallel** ()
 - (c) Series and parallel combination ()
 - (d) None of the above ()
25. If a 40 ohm resistance is connected to 240V supply, the value of current is:
- (a) 8A ()
 - (b) **6A** ()
 - (c) 10A ()
 - (d) 25A ()
26. Resistance of open circuit is equal to:
- (a) Zero ()
 - (b) less than one ohm ()
 - (c) **Infinity** ()
 - (d) Unity ()
27. According to BIS, the panel board and meter board are to be kept at a height of:
- (a) 1.0m ()
 - (b) 1.8m ()
 - (c) 3.5m ()
 - (d) **1.5m** ()
28. Solar cells are made of:
- (a) Conductor ()
 - (b) Non conductor ()
 - (c) **Semiconductor** ()
 - (d) Super conductor ()
29. If Power factor of a circuit is unity, its reactive power is:
- (a) a negative quantity ()
 - (b) **Zero** ()
 - (c) Equal to power ()
 - (d) A unity ()
30. According to Kirchhoff's Current Law (as applied to a junction in a network of conductors):
- (a) Total sum of currents meeting at the Junction is one ()
 - (b) No current can leave the junction without some current entering it ()
 - (c) Net current flow at the junction is positive ()
 - (d) **Algebraic sum of the current meeting at the junction is zero** ()

31. Which of the following is the best conductor of current?
- (a) Tungsten ()
 - (b) Carbon ()
 - (c) Copper ()
 - (d) **Silver** ()
32. What carries the current in solid metal conductors?
- (a) Protons ()
 - (b) Neutrons ()
 - (c) Ions ()
 - (d) **Free electrons** ()
33. Which type of soldering flux is used for soldering galvanized iron?
- (a) Resin ()
 - (b) Zinc Chloride ()
 - (c) Ammonia ()
 - (d) **Hydrochloric acid** ()
34. Which type of metal is used to make soldering Iron bit?
- (a) Iron ()
 - (b) Steel ()
 - (c) **Copper** ()
 - (d) Brass ()
35. Which type of joint is used in overhead lines for extending the length of wire which required strong in Mechanically and Electrically?
- (a) Scarfed Joint ()
 - (b) Britannia T Joint ()
 - (c) **Western Union Joint** ()
 - (d) Married Joint ()
36. Which solder is used for soldering Aluminium Conductor?
- (a) Fine solder ()
 - (b) **Alcap solder** ()
 - (c) Resin core solder ()
 - (d) Tinman solder ()
37. Dielectric strength of rubber used in underground is around:
- (a) 3 kV/mm ()
 - (b) 10kV/mm ()
 - (c) **30 kV/mm** ()
 - (d) 300kV/mm ()
38. In underground cable, normally cables are supplied in length upto _____ m on each drum.
- (a) 5000 ()
 - (b) 2000 ()
 - (c) 3000 ()
 - (d) **500** ()

39. Grading of cables is performed in order to achieve:

- (a) **Uniform stress** ()
- (b) Reduction in quantity of insulation ()
- (c) Reduction in quality of insulation ()
- (d) Separation of insulation ()

40. The resistance of a conductor is directly proportional to its:

- (a) Cross sectional Area ()
- (b) **Length** ()
- (c) Resistivity ()
- (d) All above ()

41. What happens to the resistance of a metal conductor when its temperature increases?

- (a) Decreases ()
- (b) **Increases** ()
- (c) Remains the same ()
- (d) Becomes zero ()

42. A multimeter measures resistance by:

- (a) Comparing it with a standard resistance ()
- (b) Applying a constant voltage and measuring current ()
- (c) **Sending a small current and measuring a voltage drop** ()
- (d) Using a metal detector ()

43. Magnetism at the centre of bar magnet is:

- (a) Minimum ()
- (b) **Zero** ()
- (c) Negative ()
- (d) Maximum ()

44. Capacitor is a device used to:

- (a) **Store electrical energy** ()
- (b) Vary the resistance ()
- (c) Store magnetic energy ()
- (d) Dissipate energy ()

45. Inductive resistance of a coil is expressed in:

- (a) Ampere ()
- (b) **Ohm** ()
- (c) Volt ()
- (d) Weber ()

46. In an inductive circuit, when the frequency is doubled, the inductive reactance:

- (a) Halves ()
- (b) **Doubles** ()
- (c) Remains the same ()
- (d) Quadruples ()

47. If both capacitance and frequency become doubled, the capacitive reactance will be:
- (a) Double ()
 - (b) Four times ()
 - (c) Half ()
 - (d) $\frac{1}{4}$ of the original ()
48. In a Capacitive A.C circuit, the current:
- (a) Lags the Voltage by 90° ()
 - (b) **Leads the voltage by 90°** ()
 - (c) Is in phase with the Voltage ()
 - (d) Lags the Voltage by 180° ()
49. What is the phase difference between the 3-phases in a 3-phase system:
- (a) 90° ()
 - (b) 180° ()
 - (c) **120°** ()
 - (d) 360° ()
50. The mass of an ion liberated at an electrode is directly proportional to the quantity of electricity-the above statement is associated with:
- (a) Newton's Law ()
 - (b) Faraday's Law of electromagnetic ()
 - (c) **Faraday's Law of electrolysis** ()
 - (d) Gauss's Law ()
51. The amp-hour capacity of industrial batteries is based on the rate of discharge in _____ hours.
- (a) 12 ()
 - (b) **8** ()
 - (c) 24 ()
 - (d) 7 ()
52. A lead acid cell is classified as:
- (a) Primary cell ()
 - (b) **Secondary cell** ()
 - (c) Dry cell ()
 - (d) Lithium ion cell ()
53. In a lead-Acid battery, separators are provided to:
- (a) Reduce internal resistance ()
 - (b) Facilitate flow of current ()
 - (c) **Avoid internal short circuit** ()
 - (d) Increase the energy efficiency ()
54. The capacity of a lead acid battery is measured in:
- (a) Amperes ()
 - (b) Watts ()
 - (c) **Ampere hour** ()
 - (d) Volts ()

55. The maximum number of points allowed in one sub circuit according to IE rule is:

- (a) 5 ()
- (b) 8 ()
- (c) **10** ()
- (d) 12 ()

56. What is the minimum height from the ground level for installing the main circuit board?

- (a) 1.0m ()
- (b) **1.5m** ()
- (c) 2.0m ()
- (d) 2.5m ()

57. MCB stands for:

- (a) Minute Control breaker ()
- (b) Minimum Current Breaker ()
- (c) **Miniature Circuit Breaker** ()
- (d) Maximum Current Breaker ()

58. Megger is used for:

- (a) **Testing the insulation resistance of a circuit** ()
- (b) Measuring the capacitance of a circuit ()
- (c) Testing the voltage of a circuit ()
- (d) Testing the current of a circuit ()

59. A megger is a combination of:

- (a) Motor and generator ()
- (b) Generator and ammeter ()
- (c) Generator and voltmeter ()
- (d) **Generator and ohmmeter** ()

60. Human body is:

- (a) **Conductor** ()
- (b) Metal ()
- (c) Non conductor ()
- (d) Not metal ()

61. A one kilo watt hour(kWh) is equal to:

- (a) 100 watt hour ()
- (b) 10 watt hour ()
- (c) **1000 watt hour** ()
- (d) 10000 watt hour ()

62. For underground cables, the generally suited cable for the voltage upto 11kV is:

- (a) **Belted cables** ()
- (b) Screen cables ()
- (c) Pressure cables ()
- (d) PVC cables ()

63. Cables used underground services from 33 kV to 60 kV are:
- (a) **Extra high tension cables** ()
 - (b) High tension cables ()
 - (c) Super tension cables ()
 - (d) Extra super tension cables ()
64. Sheaths are used in underground cables to:
- (a) Provide proper insulation ()
 - (b) Provide mechanical strength ()
 - (c) **Protect the cable from moisture** ()
 - (d) Look good appearance ()
65. While crossing the road, the cable should be:
- (a) Buried in trenches ()
 - (b) Surrounded by sawdust to absorb vibration ()
 - (c) **Laid in conduits with pipes** ()
 - (d) Easily noticeable by passers ()
66. The material used for armouring of underground cable is:
- (a) **Galvanised steel wire** ()
 - (b) Aluminium ()
 - (c) Copper ()
 - (d) Arsenic ()
67. Minimum distance of underground cables from the foundation of building should be:
- (a) 100 cm ()
 - (b) 50 cm ()
 - (c) **10 cm** ()
 - (d) 5 cm ()
68. The depth of trench required for laying underground cables by direct laying method is:
- (a) **1.2 m** ()
 - (b) 0.9 m ()
 - (c) 0.8 m ()
 - (d) 0.2 m ()
69. Which regulation requires the state load dispatch centre to operate independently from state utilities?
- (a) **Electricity Act 2003** ()
 - (b) CERC Regulation Act 2019 ()
 - (c) Energy conservation Act 2001 ()
 - (d) National Electricity Policy 2005 ()
70. Which of the following IE rules stands for danger notices?
- (a) IE Rule 45 ()
 - (b) IE Rule 43 ()
 - (c) **IE Rule 35** ()
 - (d) IE Rule 42 ()

71. The minimum clearance of the high voltage from the ground across the road should be:
- (a) **6.1m** ()
 - (b) 5.1m ()
 - (c) 3.1m ()
 - (d) 8.1m ()
72. According to IS code, the colour of earth wire is usually:
- (a) Red ()
 - (b) **Green** ()
 - (c) Yellow ()
 - (d) Black ()
73. For domestic appliances what is the rating of single pole one way switch?
- (a) 10A ()
 - (b) **15A** ()
 - (c) 5A ()
 - (d) 20A ()
74. Which type of wiring gives more mechanical and fire protection?
- (a) Casing capping wiring ()
 - (b) Batten wiring ()
 - (c) **Conduit wiring** ()
 - (d) Cleat wiring ()
75. What should be the height of a single pole switch?
- (a) 1.3m ()
 - (b) **1.5m** ()
 - (c) 2.75m ()
 - (d) 0.33m ()
76. What is the RMS value of a sinusoidal current with a peak value of 10A?
- (a) 10A ()
 - (b) 5A ()
 - (c) 6.37A ()
 - (d) **7.07A** ()
77. A single phase circuit consumes an active power of 600W when connected to 200V source. What is the reactive power consumed by the circuit if the current drawn by the circuit is 5A?
- (a) 200VAR ()
 - (b) 1200VAR ()
 - (c) **800 VAR** ()
 - (d) 400 VAR ()
78. The SI unit of both self and mutual inductance is:
- (a) Tesla ()
 - (b) Weber ()
 - (c) **Henry** ()
 - (d) Faraday ()

79. To clean a cable joint before soldering, it is better to use:
- (a) File ()
 - (b) Knife ()
 - (c) **Sand paper** ()
 - (d) Kerosene ()
80. The S.I Unit of electrical energy is:
- (a) Kilo Volt hour ()
 - (b) **Kilo watt hour** ()
 - (c) Kilo watt ()
 - (d) Kilo ampere meter ()
81. As per Ohm's law:
- (a) **$V=IR$** ()
 - (b) $V=I/R$ ()
 - (c) $V=R/I$ ()
 - (d) $R=VI$ ()
82. An insulator should have:
- (a) **High resistance** ()
 - (b) High conductance ()
 - (c) High conductivity ()
 - (d) Low resistance ()
83. What is the output voltage of a solar cell, if the intensity of light falling is high?
- (a) No output in the cell ()
 - (b) **Output voltage is increase** ()
 - (c) Output voltage is decrease ()
 - (d) Output Voltage remains the same ()
84. Current is:
- (a) Gradual change of resistance ()
 - (b) **Rate of flow of charge** ()
 - (c) Linear change in capacitance ()
 - (d) Rate of flow of voltage ()
85. Sedimentation in lead acid cell occurs due to:
- (a) **Overcharging at high rate** ()
 - (b) Slow charging at low rate ()
 - (c) Over charging at low rate ()
 - (d) Non utilization for long periods ()
86. Overcharge of battery results in:
- (a) **Higher temperature of electrolyte** ()
 - (b) Corrosion of plates ()
 - (c) Oxidation of separators and loss of water ()
 - (d) Burn ()

87. A solar cell is a:
- (a) **PV cell** ☐
 - (b) Zener diode ☐
 - (c) Ion cell ☐
 - (d) Lithium oxide ☐
88. Clearance of the conductor horizontal from the building for LT line should be:
- (a) **4 ft** ☐
 - (b) 6 ft ☐
 - (c) 8 ft ☐
 - (d) 12 ft ☐
89. With the rise in temperature, the negative temperature coefficient of resistance?
- (a) Increase ☐
 - (b) Remains constant ☐
 - (c) Becomes zero ☐
 - (d) **Decrease** ☐
90. An e.m.f induced in a coil due to a change in current in a neighbouring coil is known as:
- (a) Self induced e.m.f ☐
 - (b) Speed e.m.f ☐
 - (c) **Mutually induced e.m.f** ☐
 - (d) No e.m.f ☐
91. Which of the following is true in ideal capacitor?
- (a) **The current leads the voltage by 90°** ☐
 - (b) The current lags the voltage by 90° ☐
 - (c) Current and voltage are in phase ☐
 - (d) The current leads the voltage at an angle between 0° and 90° ☐
92. The frequency of main supply in India is:
- (a) **50 Hz** ☐
 - (b) 60 Hz ☐
 - (c) 100 Hz ☐
 - (d) 120 Hz ☐
93. The ratio of RMS value to average value is called:
- (a) Index factor ☐
 - (b) **Form factor** ☐
 - (c) Ratio factor ☐
 - (d) Range factor ☐
94. What is the equivalent of a network having 5 resistors of each 10 ohm connected in parallel?
- (a) 10 ☐
 - (b) 50 ☐
 - (c) 500 ☐
 - (d) **2** ☐

95. The ratio of maximum value to the RMS value is called:
- (a) **Peak factor** ()
 - (b) Form factor ()
 - (c) Mean factor ()
 - (d) Root factor ()
96. For which operation of a DC motor is generally prefer over an AC motor?
- (a) Fixed speed operation ()
 - (b) **Variable speed operation** ()
 - (c) High speed operation ()
 - (d) Low speed operation ()
97. Aluminium conductor cable can be joined by:
- (a) Gas welding ()
 - (b) Soldering ()
 - (c) **Compression** ()
 - (d) Thermit welding ()
98. Soldering is done on the joint to improve the:
- (a) Tensile strength ()
 - (b) Resistivity ()
 - (c) Ductility ()
 - (d) **Conductivity** ()
99. Power factor of an AC circuit is equal to:
- (a) **Cosine of angle between voltage and current** ()
 - (b) Tangent of an angle between voltage and current ()
 - (c) Apparent power /real power ()
 - (d) Impedance/resistance ()
100. Most of the solar cells are made of:
- (a) Magnesium ()
 - (b) Iron ()
 - (c) **Silicon** ()
 - (d) Radium ()

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