Sub-Divisional Officer Assistant Engineer (Civil) under PHE Department and Public Works (R&B) Department

Year of Advt: 2025 **Date of Exam: 18-June-2026**

Booklet Serial No. 12317

DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

QUESTION BOOKLET

SERIES : I

Subjects : General English, General Knowledge and Electrical Engineering

Full Marks : 300 **Time Allowed : 2½ Hours**

Read the following instructions carefully before you begin to answer the questions.

INSTRUCTIONS TO CANDIDATES

1. This Booklet contains 150 questions to be answered in a separate OMR Answer Sheet using Black Ballpoint Pen in the following three Parts :

Part—A : General English	**:**	**25 questions**
Part—B : General Knowledge	**:**	**25 questions**
Part—C : Electrical Engineering	**:**	**100 questions**

2. **All** questions are compulsory.
3. You will be supplied the Answer Sheet separately by the Invigilator. You must complete the details of particulars asked for.
4. Answer must be shown by completely blackening the corresponding circle in the Answer Sheet against the relevant question number by Black Ballpoint Pen. OMR Answer Sheet without marking Series shall not be evaluated.

   Example :

   Suppose the following question is asked :

   The Capital of Meghalaya is

   (A) Guwahati

   (B) Kohima

   (C) Shillong

   (D) Delhi

   You will have four alternatives in the Answer Sheet for your response corresponding to each question of the Question Booklet as below :

   Ⓐ Ⓑ Ⓒ Ⓓ

   In the above illustration, if your chosen response is alternative (C), i.e., Shillong, then the same should be marked on the Answer Sheet by blackening the relevant circle with a Black Ballpoint Pen only as below :

   Ⓐ Ⓑ ● Ⓓ

   The example shown above is the only correct method of answering.
5. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any one question.
6. There will NOT be any negative marking for wrong answers.
7. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.
8. No Rough Work is to be done on the Answer Sheet. Space for Rough Work has been provided in the Question Booklet.

SEAL

PART—A : GENERAL ENGLISH

(*Marks* : 50)

Each question carries **2** marks

Directions **(Q. Nos. 1–5) : Choose the correct option to fill in the gaps.**

1. What did the teacher say about me _____ I was out of the room?

(A) while
(B) on
(C) of
(D) by

2. Sheela started a new job a few weeks ago. Before that she was out of work _____ six months.

(A) for
(B) by
(C) in
(D) on

3. In the month of January, the temperature falls _____ 4 degree Celsius.

(A) from
(B) below
(C) at
(D) into

4. Sam fell down while he was running _____ the bus.

(A) into
(B) after
(C) over
(D) through

5. Try to reach home _____ sunset.

(A) from
(B) for
(C) before
(D) through

Directions **(Q. Nos. 6–10) : Choose the correct option to fill in the gaps.**

6. Peter really wanted a dog, but his parents wouldn't _____ him have a pet.

(A) let
(B) letting
(C) lead
(D) led

7. Ravi Shankar _____ by the Music Society.

(A) honour
(B) honoured
(C) is honoured
(D) was honoured

8. A child always _____ playing in the rain.

(A) enjoy
(B) enjoys
(C) enjoying
(D) enjoyed

9. Rita _____ from fever since yesterday.

(A) was suffering
(B) have been suffering
(C) has been suffering
(D) is suffering

10. Neither of the options _____ available at the present time.

(A) is
(B) was
(C) were
(D) are

***Directions* (Q. Nos. 11–15) : Choose the correct option to fill in the gaps.**

11. You cannot leave without _____.

(A) permission

(B) permiss

(C) permision

(D) premission

12. It is difficult to cross the _____.

(A) barier

(B) barrier

(C) borier

(D) berrier

13. Raj was _____ from school for bad behaviour.

(A) expelled

(B) excelled

(C) aspelled

(D) expiled

14. Fact is often stranger than _____.

(A) fancy

(B) fiction

(C) imagination

(D) dream

15. There was a serious _____ between the two brothers.

(A) alteration

(B) altercation

(C) alliteration

(D) aberration

***Directions* (Q. Nos. 16–20) : Choose the word that is closest in meaning (synonyms) to the given word.**

16. PENITENT

(A) Eccentric

(B) Remorseful

(C) Observant

(D) Profound

17. VANITY

(A) Humility

(B) Pity

(C) Pride

(D) Anger

18. INCLEMENT

(A) Pleasant

(B) Stormy

(C) Feeble

(D) Dignified

19. CONSOLE

(A) Comfort

(B) Control

(C) Solo

(D) Sad

20. DEMISE

(A) Apprehension

(B) Default

(C) Result

(D) Death

Directions **(Q. Nos. 21–25) : Choose the word that is opposite in meaning (antonym) to the given word.**

21. ENMITY

(A) Agreement

(B) Friendship

(C) Polity

(D) Animosity

22. ACQUIT

(A) Disclose

(B) Adjudge

(C) Convict

(D) Sentence

23. BUSY

(A) Occupied

(B) Relaxed

(C) Engrossed

(D) Engaged

24. GENEROUS

(A) Helpful

(B) Big

(C) Miserly

(D) Honest

25. MISER

(A) Spendthrift

(B) Villain

(C) Foreign

(D) Spiritual

PART—B : GENERAL KNOWLEDGE

(*Marks* : 50)

Each question carries **2** marks

26. Which government initiative primarily aims at promoting domestic tourism in India?

(A) Swadesh Darshan Scheme

(B) Dekho Apna Desh Scheme

(C) Space Tourism Programme

(D) None of the above

27. On which of the following types of matters can the President of India seek the advisory opinion of the Supreme Court under Article 143?

(A) Only on the disputes between the Government of India and one or more States

(B) Only on questions relating to the interpretation of the Constitution

(C) On any question of law or fact of public importance

(D) Only on matters concerning international treaties

28. Which country has won the most FIFA World Cups?

(A) Germany

(B) Argentina

(C) Brazil

(D) Italy

29. Who won the 2025 Superbet Chess Classic held in Bucharest, Romania?

(A) R. Praggnanandhaa

(B) Ding Liren

(C) Alireza Firouzja

(D) Maxime Vachier-Lagrave

30. Which of the following documents is considered as the Charter of Human Rights for Children that has become the most widely ratified human rights treaty in history?

(A) The Declaration of the Rights of the Child, 1924

(B) The Universal Declaration of Human Rights, 1948

(C) The United Nations Declaration of the Rights of the Child, 1959

(D) The Convention on the Rights of the Child, 1989

31. A significant fossil discovery in the State of Meghalaya in February 2024, estimated to be around 30 to 40 million years old and believed to be an ancestor of modern whales, is located in

(A) North Garo Hills District

(B) South Garo Hills District

(C) West Khasi Hills District

(D) East Jaintia Hills District

32. Which of the following is the most appropriate body for availing free legal aid?

(A) Office of Legal Metrology

(B) State Law Department

(C) District Legal Services Authority

(D) State Law Commission

33. The Partition of India was a result of

(A) the Cabinet Mission Plan

(B) the Cripps Mission

(C) the Wavell Plan

(D) the Mountbatten Plan

34. Which countries are involved in the 'Indo-Pacific Logistics Network Initiative' Tabletop Exercise conducted in Honolulu in April-May, 2025?

(A) India, China, Australia, the United States

(B) India, Japan, Australia, the United Kingdom

(C) India, the United States, South Korea, Japan

(D) India, Japan, Australia, the United States

35. To which rivers does the Indus Water Treaty (IWT) give India exclusive access?

(A) The Eastern Rivers

(B) The Western Rivers

(C) The Indus River

(D) Jhelum and Chenab Rivers

36. Which of the following was ***not*** a primary objective of the economic reforms of 1991?

(A) To reduce the fiscal deficit

(B) To improve the balance of payments

(C) To increase the role of the public sector

(D) To attract foreign investment

37. Who is responsible for constituting the Internal Complaints Committee (ICC) to address complaints of sexual harassment of women at workplace?

(A) The State Government

(B) The Central Government

(C) The Employer

(D) The Employees' Association

38. John Shepherd-Barron, who is widely credited with inventing the ATM Machine, was born in

(A) Kancheepuram

(B) Shillong

(C) London

(D) Berlin

39. The novel, *To Kill a Mockingbird* was written by

(A) Jane Austen

(B) F. Scott Fitzerald

(C) Harper Lee

(D) James Joyce

40. The term 'biopiracy' refers to

(A) the legal and ethical use of biological resources for research

(B) the unauthorized and often uncompensated appropriation of traditional knowledge and biological resources

(C) the unsustainable harvesting of medicinal plants by indigenous communities

(D) the sharing of genetic information for the benefit of all humanity

41. Which of the following is used as a moderator in nuclear reactors?

(A) Uranium

(B) Cadmium

(C) Plutonium

(D) Graphite

42. What is the force that holds planets in orbit around the sun?

(A) Magnetism

(B) Gravity

(C) Centrifugal force

(D) Friction

43. Which is a common method used to protect sensitive electronic components on spacecraft from radiation in space?

(A) Active cooling system

(B) Thermal blankets

(C) Radiation hardening

(D) High-gain antennas

44. Which genre of music originated in the African-American communities of the US during the late 19th and early 20th centuries, characterized by improvisation and syncopation?

(A) Classical

(B) Rock and Roll

(C) Blues

(D) Jazz

45. Which of the following is the earth's largest tectonic plate?

(A) Pacific Plate

(B) African Plate

(C) North American Plate

(D) Eurasian Plate

46. What is a 'neural network' in the context of Artificial Intelligence?

(A) A type of computer hardware

(B) A software programming language

(C) A model inspired by human brain

(D) A database management system

47. Which of the following is ***not*** the domain of Artificial intelligence?

(A) Creative Intelligence

(B) Robotics

(C) Natural Language Processing

(D) Deep Learning

48. Which is an example of e-governance platform?

(A) Amazon

(B) DigiLocker

(C) Coursera

(D) Unified Payments Interface (UPI) Apps

49. Air Quality Index (AQI) in India of the numerical range of 301–500 is identified as

(A) satisfactory

(B) unhealthy

(C) very unhealthy

(D) hazardous

50. Which Indian Law specifically addresses poaching, illegal trade and protection of endangered animals?

(A) The Forest (Conservation) Act, 1980

(B) The Prevention of Cruelty to Animals Act, 1960

(C) The Wildlife (Protection) Act, 1972

(D) The Biological Diversity Act, 2002

PART—C : ELECTRICAL ENGINEERING

(*Marks* : 200)

Each question carries **2** marks

51. Which of the following is the same as the transformer emf?

(A) Pulsational emf

(B) Induction emf

(C) Interactional emf

(D) Motional emf

52. What process takes place in an electric machine when stationary is kept in a time-varying field?

(A) Energy conversion

(B) Energy transference

(C) Rotation of coil

(D) Movement of coil

53. In a 3-phase transformer, the angle between two consecutive cores is

(A) 30 degree

(B) 60 degree

(C) 120 degree

(D) 150 degree

54. Electromagnetic torque in rotating electrical machinery is present when

(A) both stator and rotor windings carry current

(B) air gap is uniform

(C) stator winding alone carries current

(D) rotor winding alone carries current

55. Which of the following is the primary function of a commutator in a DC machine?

(A) To reverse the current direction

(B) To maintain constant field flux

(C) To regulate the armature speed

(D) To reduce the power loss

56. In a DC generator, what determines the direction of induced emf?

(A) Direction of the armature current

(B) Direction of the magnetic field and motion

(C) Speed of rotation of the armature

(D) Resistance of the winding

57. Which of the following is true about the slip in an induction motor?

(A) It is always zero at synchronous speed

(B) It is negative during motoring mode

(C) It increases as the load increases

(D) It is independent of load

58. What will be the effect of reducing load on DC shunt motor?

(A) Speed will increase abruptly

(B) Speed will increase in proportion to reduction in load

(C) Speed will remain almost constant

(D) Speed will reduce

59. In a DC shunt motor, what will be the armature current at maximum load?

(A) Almost negligible

(B) Rated full-load current

(C) Less than full-load current

(D) More than full-load current

60. What will happen to a torque, if DC series motor is accidentally connected to single-phase AC supply voltage?

(A) Pulsating and unidirectional

(B) Steady and unidirectional

(C) Oscillating

(D) Cannot be determined

61. Which of the following elements of Electrical Engineering ***cannot*** be analysed using Ohm's law?

(A) Capacitors

(B) Inductors

(C) Transistors

(D) Resistance

62. The materials to be used in manufacture of a standard resistance should be

(A) high resistivity and low temperature coefficient

(B) low resistivity

(C) high temperature

(D) None of the above

63. How can a magnetic field be produced?

(A) Using a permanent magnet

(B) Using an electric current

(C) Using a temporary magnet

(D) Using a permanent magnet or an electric current

64. The total number of magnetic field lines passing through an area is termed as

(A) voltage

(B) emf

(C) magnetic flux

(D) magnetic flux density

65. Mesh analysis is generally used to determine

(A) voltage

(B) current

(C) resistance

(D) power

66. A bulb has a power of 200 W. What is the energy dissipated by it in 5 minutes?

(A) 60 J

(B) 1000 J

(C) 60 kJ

(D) 1 kJ

67. In a ____ circuit, the total resistance is smaller than the smallest resistance in the circuit.

(A) series

(B) parallel

(C) Either series or parallel

(D) Neither series nor parallel

68. An ideal voltage source will charge an ideal capacitor

(A) in infinite time

(B) exponentially

(C) instantaneously

(D) None of the above

69. Which of the following will act as short circuit at $t = 0+$ with zero initial conditions?

(A) Capacitor

(B) Inductor

(C) Resistor

(D) None of the above

70. Superposition theorem is applicable for

(A) linear circuit only

(B) non-linear circuit only

(C) both linear and non-linear circuits

(D) None of the above

71. D flip-flop is a circuit having

(A) 2 NAND gates

(B) 3 NAND gates

(C) 4 NAND gates

(D) 5 NAND gates

72. The gates required to build a half adder are

(A) EX-OR gate and NOR gate

(B) EX-OR gate and OR gate

(C) EX-OR gate and AND gate

(D) EX-NOR gate and AND gate

73. How many flip-flops are required to make a MOD-32 binary counter?

(A) 3

(B) 5

(C) 45

(D) 6

74. How many two-input AND and OR gates are required to realize $Y = CD + EF + G$?

(A) 2, 3

(B) 2, 2

(C) 3, 3

(D) 3, 2

75. The full-scale output of a 10-bit DAC is 5 V. The resolution is

(A) 5 mV

(B) 10 mV

(C) 2·5 mV

(D) 20 mV

76. Which mechanism in Control Engineering implies an ability to measure the state by taking measurements at the output?

(A) Controllability

(B) Observability

(C) Differentiability

(D) Adaptability

77. Routh-Hurwitz criterion gives

(A) the value of roots

(B) the number of roots in the left half of the *s*-plane

(C) the number of roots in the top half of the *s*-plane

(D) the number of roots in the right half of the *s*-plane

78. If the gain of a system is reduced to a zero value, the roots of the system in *s*-plane

(A) coincide with zero

(B) move away from zero

(C) move away from poles

(D) coincide with the poles

79. What does a zero initial condition for a system mean?

(A) Input reference signal is zero

(B) Zero stored energy

(C) Initial movement of moving part

(D) The system is at rest, and no energy is stored in any of its components

80. The input signals to control systems are not known thoroughly ahead of time. The characteristics of control systems that suddenly strain a control system are

(A) sudden shock

(B) sudden change

(C) constant velocity and acceleration

(D) All of the above

81. In which region does BJT act as the OFF switch in electronic circuits?

(A) Cut-off

(B) Saturation

(C) Active

(D) Reverse saturation

82. Which of the following is true about Zener diode?

(A) It is lightly doped

(B) It has Avalanche breakdown

(C) It is used in forward bias

(D) It is mostly used in voltage regulator electronic circuits

83. Which among the following is a current-controlled device?

(A) JFET

(B) IGBT

(C) BJT

(D) MOSFET

84. The depletion layer of a PN junction diode has

(A) both free mobile holes as well as electrons

(B) neither free mobile electrons nor holes

(C) only free mobile electrons

(D) only free mobile holes

85. Which of the following statements is true about FET?

(A) It has low input impedance.

(B) It does not offer any resistance.

(C) It has high input impedance.

(D) It has high output impedance.

86. Which of the following meters has a linear scale?

(A) Moving-coil meter

(B) Thermocouple meter

(C) Hot-wire meter

(D) Moving-iron meter

87. In a moving-iron meter, the deflection torque is proportional to

(A) current through the coil

(B) sine of the measurand

(C) square root of the measurand

(D) square of the current through the coil

88. Which one of the following statements is ***incorrect***?

(A) Ideal voltage sources of different values cannot be connected in parallel.

(B) Ideal current sources of different values cannot be connected in series.

(C) An ideal voltage source and an ideal current source cannot be connected in series.

(D) An ideal voltage source and an ideal current source can be connected in parallel.

89. Which of the following represents active transducer?

(A) Strain gauge

(B) LVDT

(C) Thermistor

(D) Thermocouple

90. When an ammeter is inserted in the circuit, the circuit current will

(A) increase

(B) decrease

(C) remain the same

(D) None of the above

91. In a thyristor, the magnitude of anode current will

(A) increase if gate current is increased

(B) increase if gate current is decreased

(C) decrease if gate current is decreased

(D) not change with any variation in gate current

92. In a full-bridge rectifier, how many diodes conduct during each half cycle of input AC signal?

(A) 1

(B) 2

(C) 3

(D) 4

93. The function of a snubber circuit in a power electronic converter is to

(A) increase efficiency

(B) reduce voltage spikes and ringing

(C) increase switching speed

(D) improve power factor

94. Which of the following converters is most commonly used in regenerative braking?

(A) Boost converter

(B) Buck converter

(C) Bidirectional DC-DC converter

(D) AC-DC converter

95. The main purpose of a freewheeling diode in a converter circuit is to

(A) protect the device from over-voltage

(B) reduce harmonics

(C) increase the power factor

(D) maintain continuous current flow through the inductor

96. Insulation of the modern extra high-voltage lines is designed based on

(A) lightning voltage

(B) switching voltage

(C) corona

(D) radio interference

97. Surge impedance loading for a 3-phase can be defined as

(A) $\frac{V^2}{Z}$

(B) $\frac{V^2}{I}$

(C) $\frac{V^2}{X}$

(D) $\frac{X^2}{I}$

98. For accurate load flow calculations on large power systems, the best method is

(A) G-S method

(B) N-R method

(C) decoupled method

(D) All of the above

99. What should be the minimum depth (in metre) of cable trench to dug for laying of 1·1 kV?

(A) 0·75

(B) 0·9

(C) 1·05

(D) 1·20

100. Synchronous phase modifiers are installed at which position of the transmission line?

(A) Receiving end

(B) Sending end

(C) Mid of line

(D) 25% of line from receiving end

101. In a DC machine, the form of flux density distribution (main field only) waveform is

(A) triangular

(B) sinusoidal

(C) sawtooth

(D) trapezoidal

102. Which losses can be identified from Swinburne's test?

(A) No-load core loss

(B) Windage and friction loss

(C) No-load and windage and friction loss

(D) Stray load loss

103. For series DC generator, internal/ external characteristics start from

(A) positive non-zero voltage

(B) zero voltage

(C) negative non-zero voltage

(D) Can start from anywhere

104. Load sharing of two generators connected in parallel is determined by

(A) internal characteristics

(B) external characteristics

(C) both internal and external characteristics

(D) It does not depend on load sharing

105. What is the reason behind short circuit in armature?

(A) Insulation failure between two commutator bars

(B) Insulation failure between two turns of a coil

(C) Two or more turns of the same coil getting grounded

(D) Insulation failure between two commutator bars, two turns of a coil or the same coil getting grounded

106. Kirchhoff's laws are ***not*** applicable to circuits with

(A) distributed parameters

(B) lumped parameters

(C) passive elements

(D) non-linear resistances

107. The rated voltage of a 3-phase power system is given as

(A) r.m.s. phase voltage

(B) peak phase voltage

(C) r.m.s. line-to-line voltage

(D) peak line-to-line voltage

108. If a capacitor is energized by a symmetrical square-wave current source, then the steady-state voltage across the capacitor will be

(A) a square wave

(B) a triangular wave

(C) a step function

(D) an impulse function

109. If the source of 200 V r.m.s. supplies active power of 600 W and reactive power of 800 VAR, then the r.m.s. current drawn from the source is

(A) 10 A

(B) 5 A

(C) 3·75 A

(D) 2·5 A

110. The r.m.s. value of a sine wave is 100 A. Its peak value is

(A) 70·7 A

(B) 139 A

(C) 150 A

(D) 141 A

111. How many cycles will an AC signal make in 2 seconds, if its frequency is 100 Hz?

(A) 50

(B) 100

(C) 150

(D) 200

112. What kind of quantity is an electric potential?

(A) Vector quantity

(B) Tensor quantity

(C) Scalar quantity

(D) Dimensionless quantity

113. What will happen in a transformer when the number of secondary turns is less than that of primary turns?

(A) The voltage gets stepped up

(B) The voltage gets stepped down

(C) The power gets stepped up

(D) The power gets stepped down

114. How many directions can the electric field at a point have?

(A) Zero

(B) One

(C) Two

(D) Many

115. Single-line diagram of which of the following power systems is possible?

(A) Power system with LG fault

(B) Balanced power system

(C) Power system with LL fault

(D) Power system with LLG fault

116. If all the sequence voltages at the fault point in a power system are equal, then the fault is

(A) LLG fault

(B) LL fault

(C) LLLG fault

(D) LG fault

117. Which of the following is ***not*** an advantage of hydroelectric power plant?

(A) No fuel requirement

(B) Continuous power source

(C) Low running cost

(D) No standby losses

118. A diode has

(A) 1 PN junction

(B) 2 PN junctions

(C) 3 PN junctions

(D) None of the above

119. A DIAC is

(A) an AC switch

(B) a DC switch

(C) a mechanical switch

(D) None of the above

120. A chopper is used to convert from

(A) DC to AC

(B) AC to DC

(C) AC to AC

(D) DC to DC

121. Type B chopper is used in

(A) 1st quadrant

(B) 2nd quadrant

(C) 1st and 2nd quadrants

(D) 2nd and 4th quadrants

122. Slip rings are used in

(A) DC motor

(B) BLDC motor

(C) PMSM motor

(D) synchronous motor

123. An under-excited synchronous motor operates at _____ power factor.

(A) unity

(B) zero

(C) leading

(D) lagging

124. If the field supply current in a separately excited DC motor decreases, the speed will

(A) decrease

(B) increase

(C) constant

(D) fluctuate

125. Consider a system with transfer function $G(s) = \frac{s+6}{Ks^2+s+6}$. Its damping ratio will be 0·5 when the value of K is

(A) $\frac{2}{6}$

(B) 3

(C) $\frac{1}{6}$

(D) 6

126. A linear time-invariant system is stable if

(A) the system is excited by the bounded input, the output is also bounded

(B) in the absence of input, output tends zero

(C) Both (A) and (B)

(D) the system is excited by the bounded input, the output is not bounded

127. What is the size of radius for Nyquist contour?

(A) 25

(B) 0

(C) 1

(D) ∞

128. According to Nyquist stability criterion, where should be the position of all zeros of $q(s)$ corresponding to s-plane?

(A) On left half

(B) At the centre

(C) On right half

(D) Random

129. FFT algorithm is designed to perform

(A) real operations only

(B) complex operations

(C) imaginary operations only

(D) neither real nor imaginary operations

130. DTFT is the representation of

(A) periodic discrete-time signals

(B) aperiodic discrete-time signals

(C) aperiodic continuous signals

(D) periodic continuous signals

131. Which personal protective equipment is mandatory while working on electrical panels?

(A) Safety helmet

(B) Insulated gloves

(C) Cotton gloves

(D) Leather boots

132. What is the standard colour code for earthing wire in India?

(A) Red

(B) Blue

(C) Green

(D) Yellow

133. Which of the following fire extinguishers is suitable for electrical fires?

(A) Water-based

(B) Carbon dioxide (CO_2)

(C) Foam-based

(D) Dry chemical powder

134. A Megger is used to measure

(A) voltage

(B) resistance

(C) insulation resistance

(D) capacitance

135. Which plier type is most suitable for cutting thick electrical wires?

(A) Long-nose pliers

(B) Combination pliers

(C) Diagonal cutting pliers

(D) Slip-joint pliers

136. Which of the following protects electrical circuits from over-current?

(A) MCB

(B) RCCB

(C) ELCB

(D) Contactor

137. What is the main advantage of a 3-phase over a single-phase power supply?

(A) Requires fewer conductors

(B) Provides constant power

(C) Reduces losses

(D) All of the above

138. Which type of wire joint is best for connecting two conductors in a parallel configuration?

(A) Twist joint

(B) Western Union joint

(C) Tee joint

(D) Soldered joint

139. Which device detects phase sequence in a 3-phase system?

(A) Voltmeter

(B) Ammeter

(C) Phase sequence indicator

(D) Ohmmeter

140. A star connection is preferred over a delta connection for

(A) high voltage, low current applications

(B) low voltage, high current applications

(C) high-speed applications

(D) None of the above

141. Which of the following is ***not*** an insulator?

(A) Mica

(B) Glass

(C) Gold

(D) Wood

142. A semiconductor in its purest form is known as

(A) insulator

(B) intrinsic semiconductor

(C) extrinsic semiconductor

(D) superconductor

143. The SI unit of watt (W) is

(A) $kg.m^2.s^{-2}$

(B) $kg.m^2.s^{-3}$

(C) $kg.m^{-2}.s^{-2}$

(D) $kg.m^2.s^3$

144. The coefficient of coupling between two air core coils depends on

(A) self-inductance of two coils only

(B) mutual inductance and self-inductance of two coils

(C) mutual inductance between two coils only

(D) None of the above

145. The resistance of a conductor is given as $R\ \Omega$. If the diameter of the conductor is doubled and its length is halved, the new resistance will be

(A) $R/8\ \Omega$

(B) $R/2\ \Omega$

(C) $2R\ \Omega$

(D) $8R\ \Omega$

146. Power factor correcting element is generally connected in

(A) series with load

(B) parallel to the load

(C) series with source

(D) parallel to the source

147. Bundled conductors are used in transmission lines in order to

(A) reduce corona loss and increase line inductance

(B) decrease the GMD (mutual) of line

(C) decrease the GMD (self) of line

(D) reduce corona loss and decrease line inductance

148. Generation and distribution of power in EHV lines

(A) is in AC only

(B) depends on load factor

(C) is in both AC and DC

(D) is in DC only

149. Which of the following equipments is ***not*** installed in electrical substation?

(A) Shunt reactor

(B) Series capacitor

(C) Potential transformer

(D) Exciter

150. Fuse is used for which of the following purposes?

(A) Overload protection

(B) Short-circuit protection

(C) Used up to 66 kV

(D) All of the above