

015/2021

Question Booklet
Alpha Code



Question Booklet
Serial Number

Total No. of Questions : 100

Maximum : 100 Marks

Time : 75 Minutes

INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. Blank sheets of paper is attached to the question booklet. These may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball-Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

015/2021-A



015/2021

Total Marks : 100 Marks

Time : 1 hour and 15 minutes

9. What is the conductivity of aluminum conductor when compared to copper conductor of the same size ?
(A) 45% (B) 55%
(C) 60.6% (D) 40%

10. What is the expansion form of XLPE cable ?
(A) Zero loss polyethylene (B) Zero lead polyethylene
(C) Cross linked polyethylene (D) Cross line polyethylene

11. Find the value of resistance in a circuit having current 2.5A and voltage applied 230V ?
(A) 100 Ω (B) 50 Ω
(C) 92 Ω (D) 98 Ω

12. Which law states that in each closed circuit the sum of all voltage drops is equal to zero ?
(A) Ohm's law (B) Kirchhoff's First law
(C) Current law (D) Kirchhoff's Second law

13. What is the temperature co-efficient of resistance of a semi conductor ?
(A) Negative (B) Positive
(C) One (D) Zero

14. In electrolysis the positive electrode is called
(A) Terminal (B) Cathode
(C) Anode (D) Glass jar

15. What is the value of resistivity of copper ?
(A) 2.4 micro ohm meter (B) 0.017 micro ohm meter
(C) 1.64 micro ohm meter (D) 7.8 micro ohm meter

16. What is the average e.m.f of Leclanche cell ?
(A) 2V (B) 1.12V
(C) 1.5V (D) 1.3V

17. What is the total output voltage if five cells of 1.5V are connected in parallel ?
(A) 7.5V (B) 1.5V
(C) 5V (D) 8V

- 34.** In which of the following load power factor is unity ?
(A) Capacitive load
(B) Pure Resistive load
(C) Inductive reactance with resistance
(D) Non capacitive with inductive load

35. What is the minimum dimension of copper earth plate as per Indian standards ?
(A) 60 cm × 60 cm × 3.15 mm
(B) 60 cm × 30 cm × 6.38 mm
(C) 60 cm × 60 cm × 6.38 mm
(D) 40 cm × 40 cm × 6.18 mm

36. What is the minimum internal diameter of G.I pipe for pipe earthing as per Indian standards ?
(A) 32 mm (B) 38 mm
(C) 28 mm (D) 25 mm

37. What is the expansion form of RCCB ?
(A) Residual current control breaker
(B) Residual control circuit breaker
(C) Residual current circuit breaker
(D) Residual circuit current breaker

38. As per IE Rule 48, the maximum permissible voltage drop in a power industrial circuit should not more than
(A) 10% of the declared supply voltage
(B) 9% of the declared supply voltage
(C) 15% of the declared supply voltage
(D) 5% of the declared supply voltage

39. What is the maximum load in a sub-circuit as per IE Rule regarding internal wiring ?
(A) 800 W (B) 900 W
(C) 1000 W (D) 700 W

40. According to Indian standards, the insulation resistance of any wiring installation should not be less than _____.
(A) 10 MΩ (B) 18 MΩ
(C) 20 MΩ (D) 1 MΩ

88. All day efficiency of transformer is

- (A)
$$\frac{\text{Output kWh in 24 hrs}}{\text{Output kWh in 24 hrs} + \text{Loss in 24 hrs}}$$
- (B)
$$\frac{\text{Input kWh in 24 hrs}}{\text{Input kWh in 24 hrs} + \text{Loss in 24 hrs}}$$
- (C)
$$\frac{\text{Input kWh in 24 hrs}}{\text{Input kWh in 24 hrs} - \text{Losses in 24 hrs}}$$
- (D)
$$\frac{\text{Output kWh in 24 hrs}}{\text{Input kWh in 24 hrs} - \text{Losses in 24 hrs}}$$

89. Efficiency of a transformer is usually

- (A) 70 – 80% (B) 60 – 70%
- (C) Above 90% (D) 50 – 80%

90. In a/an _____ instrument the pointer will oscillate before coming to final deflected position.

- (A) Over-damped (B) Under-damped
- (C) Critical damped (D) Dead beat

91. To obtain more holes, a pure silicon crystal is doped with _____.

- (A) Arsenic (B) Antimony
- (C) Phosphorous (D) Boron

92. _____ gas is filled in incandescent lamp.

- (A) Argon (B) Sodium
- (C) Mercury vapour (D) Neon

93. Unit of luminous flux

- (A) candela (B) flux
- (C) candle power (D) lumens

SPACE FOR ROUGH WORK

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