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**MPSC
Assistant
Engineer EE
Mains 2019 -
Paper 2**





सूचना

- (1) सदर प्रश्नपुस्तिकेत 100 अनिवार्य प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे लिहिण्यास सुरुवात करण्यापूर्वी या प्रश्नपुस्तिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून घ्यावी. तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.
 - (2) आपला परीक्षा-क्रमांक ह्या चौकोनांत न विसरता बॉलपेनने लिहावा.
- परीक्षा-क्रमांक

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केंद्राची संकेताक्षरे

शेवटचा अंक
- (3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर विशिष्ट जागी उत्तरपत्रिकेवरील सूचनेप्रमाणे न विसरता नमूद करावा.
 - (4) या प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाला 4 पर्यायी उत्तरे सुचविली असून त्यांना 1, 2, 3 आणि 4 असे क्रमांक दिलेले आहेत. त्या चार उत्तरांपैकी सर्वात योग्य उत्तराचा क्रमांक उत्तरपत्रिकेवरील सूचनेप्रमाणे तुमच्या उत्तरपत्रिकेवर नमूद करावा. अशा प्रकारे उत्तरपत्रिकेवर उत्तरक्रमांक नमूद करताना तो संबंधित प्रश्नक्रमांकासमोर छायांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.
 - (5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांची उत्तरे द्यावीत. घाईमुळे चुका होणार नाहीत याची दक्षता घेऊनच शक्य तितक्या वेगाने प्रश्न सोडवावेत. क्रमाने प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण वाटल्यास त्यावर वेळ न घालविता पुढील प्रश्नांकडे वळावे. अशा प्रकारे शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक राहिल्यास कठीण म्हणून वगळलेल्या प्रश्नांकडे परतणे सोईस्कर ठरेल.
 - (6) उत्तरपत्रिकेत एकदा नमूद केलेले उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्याने उत्तर दिल्यास ते तपासले जाणार नाही.
 - (7) प्रस्तुत परीक्षेच्या उत्तरपत्रिकांचे मूल्यांकन करताना उमेदवाराच्या उत्तरपत्रिकेतील योग्य उत्तरांनाच गुण दिले जातील. तसेच “उमेदवाराने वस्तुनिष्ठ बहुपर्यायी स्वरूपाच्या प्रश्नांची दिलेल्या चार उत्तरांपैकी सर्वात योग्य उत्तरेच उत्तरपत्रिकेत नमूद करावीत. अन्यथा त्यांच्या उत्तरपत्रिकेत सोडविलेल्या प्रत्येक चार चुकीच्या उत्तरांसाठी एका प्रश्नाचे गुण वजा करण्यात येतील”.

ताकीद

ह्या प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपेपर्यंत ही प्रश्नपुस्तिका आयोगाची मालमत्ता असून ती परीक्षाकक्षात उमेदवाराला परीक्षेसाठी वापरण्यास देण्यात येत आहे. ही वेळ संपेपर्यंत सदर प्रश्नपुस्तिकेची प्रत/प्रती, किंवा सदर प्रश्नपुस्तिकेतील काही आशय कोणत्याही स्वरूपात प्रत्यक्ष वा अप्रत्यक्षपणे कोणत्याही व्यक्तीस पुरविणे, तसेच प्रसिद्ध करणे हा गुन्हा असून अशी कृती करणाऱ्या व्यक्तीवर शासनाने जारी केलेल्या “परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचा अधिनियम-82” यातील तरतुदीनुसार तसेच प्रचलित कायद्याच्या तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.

तसेच ह्या प्रश्नपत्रिकेसाठी विहित केलेली वेळ संपण्याआधी ही प्रश्नपुस्तिका अनधिकृतपणे बाळगणे हा सुद्धा गुन्हा असून तसे करणारी व्यक्ती आयोगाच्या कर्मचारीवृंदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयवृंदापैकी असली तरीही अशा व्यक्तीविरुद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पुढील सूचना प्रश्नपुस्तिकेच्या अंतिम पृष्ठावर पहा

पर्यवेक्षकांच्या सूचनेबिना हे सील उघडू नये

SE.
AL.

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK



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1. At which power factor is DG set rated in KW ?

- | | |
|---------|---------|
| (1) 0.7 | (2) 0.8 |
| (3) 0.9 | (4) 1 |

2. In an alternator voltage drops occur in

- (1) armature resistance only
- (2) armature resistance and leakage reactance
- (3) armature resistance, leakage reactance and armature reactance
- (4) armature resistance, leakage reactance, armature reaction and earth connections

3. Overloading permitted in DG set is about

- | | |
|-----------------|-----------------|
| (1) 125%, 2 hrs | (2) 110%, 2 hrs |
| (3) 125%, 1 hr | (4) 110%, 1 hr |

4. The power factor of an alternator depends on

- (1) Load
- (2) Speed of rotor
- (3) Core losses
- (4) Armature losses

5. ISO 3046 (Part 5) establishes that the general requirement for DG set is

- (1) Torsional vibration
- (2) Speed
- (3) Power
- (4) None of the above

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6. The frequency of voltage generated in an alternator depends on
- (1) number of poles
 - (2) rotative speed
 - (3) number of poles and rotative speed
 - (4) number of poles, rotative speed and type of winding
-
7. Which insulation class is suitable in DG sets ?
- (1) Y
 - (2) A
 - (3) E
 - (4) F or higher
-
8. Two identical alternators having impedances Z_1 and Z_2 connected in parallel produces, E_1 and E_2 as their individual induced emfs. If no load is connected to the alternators, then a circulating current will flow in the circuit.
- This current is given by
- (1) $(E_1 + E_2) / (Z_1 - Z_2)$
 - (2) $(E_1 - E_2) / (Z_1 + Z_2)$
 - (3) $(E_2 - E_1) / (Z_1 + Z_2)$
 - (4) $(E_1 + E_2) / (Z_1 + Z_2)$
-
9. _____ are simple heat exchangers for imparting additional energy to steam for given pressure.
- (1) Superheaters
 - (2) Economizers
 - (3) Draught systems
 - (4) None of the above
-
10. Steam _____ is a device in which the exhaust steam from engines and turbines is condensed and air and other non-convertible gases are removed in a continuous process.
- (1) Superheater
 - (2) Economizer
 - (3) Condenser
 - (4) None of the above
-

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

11. Hydraulic power of a pump is
- (1) proportional to density of fluid
 - (2) inversely proportional to density of fluid
 - (3) not affected by density of fluid
 - (4) proportional to square of density of fluid
-
12. In a blower fan, reducing the RPM by 10%
- (1) decreases power requirement by 27%
 - (2) increases power requirement by 16%
 - (3) has no effect on power requirement
 - (4) None of the above
-
13. The main function of a centrifugal pump is to
- (1) transfer speed
 - (2) transfer pressure
 - (3) transfer temperature
 - (4) transfer energy
-
14. If a motor-pump set lifts 100 litres of water through a height of 10 m in 1.5 min., then the output power required by the pump will be (Take 1 lit. = 1 kg)
- | | |
|--------------|--------------|
| (1) 0.109 kW | (2) 0.102 kW |
| (3) 0.5 kW | (4) 10.9 kW |
-
15. Centrifugal pumps with backward curved blades are used in
- | | |
|-----------------------|--------------------------|
| (1) Forced draft fans | (2) Induced draft fans |
| (3) Furnace fans | (4) Kitchen exhaust fans |
-
16. Which of the following motors is used in a ceiling fan ?
- | | |
|---------------------|-----------------------|
| (1) Universal motor | (2) Synchronous motor |
| (3) Series motor | (4) Induction motor |
-
17. The difference in total head of the pump is called
- | | |
|----------------|---------------------|
| (1) Euler head | (2) Pressure head |
| (3) Shaft head | (4) Manometric head |
-

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18. Which of the following motor will give relatively high starting torque ?
(1) Capacitor start induction motor (2) Capacitor run induction motor
(3) Split phase synchronous motor (4) Shaded pole motor
-
19. The multistage compression as compared to single stage compression
(1) improves volumetric efficiency for the given pressure ratio
(2) reduces work done per kg of air
(3) reduces cost of compressor
(4) All of the above
-
20. Pump efficiency is defined as the ratio of
(1) Pressure to temperature
(2) Temperature to pressure
(3) Water horsepower to pump horsepower
(4) Pump horsepower to water horsepower
-
21. As the condenser temperature increases, the compressor power consumption
(1) Decreases (2) Increases
(3) Remains constant (4) None of the above
-
22. In refrigeration system, energy efficiency ratio is
(1) $\frac{\text{Watt refrigeration effect}}{\text{Watt input}}$ (2) $\frac{\text{KW Input}}{\text{Tons refrigeration effect}}$
(3) $\frac{\text{KW refrigeration effect}}{\text{Tons refrigeration effect}}$ (4) All of the above
-
23. _____ is used as refrigerant in a vapour absorption refrigerator.
(1) Aqua ammonia (2) Freon
(3) Water (4) Sulphur dioxide
-
24. What is the effect of superheating a vapour before compression ?
(1) Increases refrigerating effect per unit mass of refrigerant
(2) Decreases the work of compression
(3) Decreases the specific volume
(4) Increases the chances of work compression
-

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25. Power output of a fan is based on

- (1) Fan volume and fan total pressure
- (2) Air flow rate
- (3) Air temperature
- (4) All of the above

26. In compound compression refrigeration system with intercooling, the intermediate pressure p_2 , if the cooling system is fixed, is given by

(p_1 = Suction or evaporator pressure, p_3 = Condensers pressure)

- (1) $p_2 = p_1 / p_3$
- (2) $p_2 = p_3 / p_1$
- (3) $p_2 = p_1 \times p_3$
- (4) $p_2 = \sqrt{p_1 \times p_3}$

27. Environmental protection agencies advise against the use of chlorofluorocarbon (CFC) refrigerants because

- (1) these react with oxygen and cause its depletion
- (2) these react with plants and cause greenhouse effect
- (3) these react with ozone layer
- (4) these react with water vapour and cause acid rains

28. HP of fan/blower is proportional to _____, where N is speed.

- (1) N
- (2) N^2
- (3) N^3
- (4) \sqrt{N}

29. Which of the following motors is used in household refrigerators ?

- (1) DC shunt motor
- (2) Reluctance motor
- (3) Single-phase induction motor
- (4) Synchronous motor

30. Which of the following refrigerant has lowest freezing point ?

- (1) R-11
- (2) R-12
- (3) R-22
- (4) Ammonia

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

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31. Grading of cable means distribution of dielectric material in such a way that the difference between E_{\max} and E_{\min} is
- (1) reduced (2) increased
(3) increased to infinity (4) None of the above
-
32. With ordinary main cable, _____ is used which does not need additional armouring.
- (1) Aluminium sheathing (2) Steel tape
(3) Steel wire (4) None of the above
-
33. The average resistance of human body is
- (1) 100 ohm (2) 50 ohm
(3) 1000 ohm (4) 5000 ohm
-
34. Grounding provides
- (1) stability of voltage condition
(2) prevents excessive voltage peaks during the disturbances
(3) both (1) and (2)
(4) None of the above
-
35. Which of the following statements are *true* ?
- a. In overhead lines, inductance is more predominant whereas capacitance is in the cable.
b. In overhead lines, capacitance is more predominant whereas inductance is in the cable.
c. Cost of cable is high compared to the overhead lines.
d. Cost of cable is low compared to overhead lines.

Answer Options :

- (1) a and c are true (2) a and b are true
(3) b and c are true (4) c and d are true

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

36. For large power stations, the maximum permissible value of earth resistance is

- | | |
|-------------|-----------|
| (1) 0.5 ohm | (2) 1 ohm |
| (3) 2 ohm | (4) 8 ohm |

37. Grounding of substation provides

- (1) ground connection for the system neutral
- (2) the discharge path for surge arresters
- (3) safety to the operating personnels
- (4) All of the above

38. In effectively grounded system, neutral is directly connected to ground

- (1) without any intentional impedance between neutral and ground
- (2) with reactance between neutral and ground
- (3) with resistance between neutral and ground
- (4) None of the above

39. Resistance grounding is usually employed for the systems operating on voltages

- (1) exceeding 3.3 kV but not exceeding 33 kV
- (2) between 1.1 kV and 3.3 kV
- (3) between 33 kV and 66 kV
- (4) between 66 kV and 132 kV

40. As the cable length increases, there is

- (1) less insulation resistance and more leakage current
- (2) more insulation resistance and less leakage current
- (3) less insulation resistance and less leakage current
- (4) more insulation resistance and more leakage current

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

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41. The neutral of the power system may be connected to earth
- (1) directly
 - (2) through a resistor
 - (3) through a reactor
 - (4) Any of the above
-
42. Which of the following substation scheme is more reliable and flexible ?
- (1) Single bus
 - (2) Double bus with double breaker
 - (3) One and half breaker
 - (4) Main and transfer bus
-
43. Resistance earthing is done for voltage between
- (1) 3.3 kV and 22 kV
 - (2) 11 kV and 33 kV
 - (3) 33 kV and 66 kV
 - (4) 66 kV and 132 kV
-
44. Minimum size of cable for lighting circuit is _____ sq. mm.
- | | |
|---------|---------|
| (1) 1.5 | (2) 2.5 |
| (3) 3.5 | (4) 4.5 |
-
45. A bus coupler circuit breaker is utilized in a substation for
- (1) joining the transmission line with station bus bar
 - (2) joining main and transfer bus in a substation
 - (3) joining the generator with transformer
 - (4) joining the neutral of generator with earth
-
46. Peterson coil is used for
- (1) reducing fault of system
 - (2) grounding of system neutral
 - (3) connecting two interconnected systems
 - (4) None of the above
-

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

47. Busbars are made up of aluminium mainly because of

- (1) low density
- (2) low cost
- (3) low melting point
- (4) high resistivity

48. Which among these is a configuration of an isolator ?

- a. Vertical break type
- b. Horizontal type
- c. Horizontal break with two post insulator
- d. Horizontal break centre post rotating double break
- e. Pantograph type

Answer Options :

- (1) Only b and c
- (2) a, b, c and d
- (3) a, b, c, d and e
- (4) a, b, d, e

49. Moisture content in the soil _____ the earth's resistance.

- (1) increases
- (2) decreases
- (3) does not affect
- (4) None of the above

50. _____ are merely convenient means of connecting switches and other equipment into the various arrangements at substations.

- (1) Busbars
- (2) Bus couplers
- (3) Circuit breakers
- (4) None of the above

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

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51. The initiation of electric arc at the instant of contact separation is caused by
- (1) ionization of collision of particles
 - (2) field emission of electrons
 - (3) (1) and (2) both
 - (4) None of the above
-
52. The standard operating duty of a circuit breaker is two units operations with _____ between the operations.
- (1) 20 seconds
 - (2) 15 seconds
 - (3) 25 seconds
 - (4) None of the above
-
53. The maximum value of the restriking voltage in circuit breaker in terms of system voltage will always be
- (1) 2 times the normal peak
 - (2) 2.5 times the normal peak
 - (3) 2 times the voltage available at the time of current zero
 - (4) 1.5 times the normal peak
-
54. If normal system voltage is 415 V, rated voltage of circuit breaker will be
- (1) 400 V
 - (2) 415 V
 - (3) 440 V
 - (4) Any value above 415 V
-
55. Quantity by which circuit breakers are rated is
- (1) maximum voltage
 - (2) frequency
 - (3) interruption time
 - (4) All of the above
-
56. The arc extinction in a circuit breaker is influenced by
- (1) magnitude of arc current only
 - (2) RRRV only
 - (3) rate of rise of dielectric strength of medium only
 - (4) All of the above
-

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

57. At which temperature does aluminium become soft and loses its strength ?

- | | |
|------------|------------|
| (1) 120° C | (2) 160° C |
| (3) 150° C | (4) 800° C |

58. The most severe voltage stress occurs across the circuit breakers for

- | | |
|-----------------|-----------------|
| (1) L-L fault | (2) L-L-G fault |
| (3) L-L-L fault | (4) L-G fault |

59. The value of resistance used for resistance switching with the circuit breaker having high post-zero resistance is typically

- a. $R \ll L$
- b. $(R^2/4L^2) = (1/LC)$
- c. $R < 2 \sqrt{L/C}$
- d. $R > 2 \sqrt{L/C}$

where L is the series inductance and C is the shunt capacitance at the circuit breaker contacts.

Answer options :

- | | |
|------------|------------|
| (1) a only | (2) c only |
| (3) d only | (4) b only |

60. After using Auto transformer starter, starting current gets limited to

- (1) 7 – 8 times full load current
- (2) 2 – 3 times full load current
- (3) 2.5 – 4 times full load current
- (4) 10 times full load current

61. Bias setting of transformer differential relay cannot avoid maloperation due to
- external fault
 - CT saturation
 - CT mismatching
 - over-voltage on source side of the transformer

Answer options :

- | | |
|------------------|------------|
| (1) a only | (2) d only |
| (3) b and c only | (4) b only |

-
62. Mho relay is normally used for protection of

- short transmission lines
- medium transmission lines
- long transmission lines
- No length criteria

-
63. The magnetising inrush current in a transformer is rich in

- second harmonic component
- third harmonic component
- fifth harmonic component
- seventh harmonic component

-
64. A relay which has no moving parts and performs measurement with solid state circuit is called

- | | |
|------------------------|-------------------|
| (1) Differential relay | (2) Static relay |
| (3) Induction relay | (4) Thermal relay |

-
65. For the impedance relaying schemes, calculate the impedance using the

- fundamental component of the post-fault current
- transient component of the post-fault current
- fundamental as well as transient component of the fault current
- None of the above

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

66. The recommended level of RCCB (Residual Current Circuit Breakers) is _____ in residences.

- | | |
|------------|------------|
| (1) 30 mA | (2) 100 mA |
| (3) 300 mA | (4) 50 mA |

67. The threshold characteristics of a plane impedance relay in complex z-plane is

- (1) a circle passing through the origin
- (2) a circle with the centre at the origin
- (3) a straight line passing through the origin
- (4) a straight line offset from the origin

68. MCCB stands for _____ circuit breaker.

- | | |
|--------------------|------------------|
| (1) mixed case | (2) mains case |
| (3) modulated case | (4) moulded case |

69. In a 3-step distance protection, the reach of the three zones of the relay at the beginning of the first line typically extends into

- (1) 100% of the first line, 50% of the second line and 20% of the third line
- (2) 80% of the first line, 50% of the second line and 20% of the third line
- (3) 80% of the first line, 50% of the second line and 10% of the third line
- (4) 50% of the first line, 50% of the second line and 20% of the third line

70. _____ Relays are best suited for protection of radial feeders.

- (1) Overload
- (2) Definite time current
- (3) Induction type
- (4) Earth leakage

71. The inductance of a coil depends on which of the following factors ?
(1) Type of winding (2) Number of turns
(3) Conductor material (4) All of the above
-
72. Power quality problems originates from
(1) power plant (2) substation
(3) transmission lines (4) All of the above
-
73. Voltage distortion limits are specified in
(1) IEEE 343 (2) IEEE 518
(3) IEEE 519 (4) IEEE 342
-
74. Which event is the short reduction in the RMS voltage between 0.1 to 0.9 pu for a duration of 0.5 cycle to 1 minute ?
(1) Voltage sag (2) Voltage surge
(3) Voltage interruption (4) Voltage degradation
-
75. Load reduction on power systems causes
(1) EMI (2) Sag
(3) Swell (4) Impulse
-
76. In EHV and UHV systems, the type of surge diverter used for overvoltage protection is
(1) Valve type SiC arresters (2) Gapless ZnO arresters
(3) Gapless SiC arresters (4) Rod gap arresters
-
77. The slope of B-H curve at any point is
(1) Permeability (2) Permittivity
(3) Susceptance (4) Non-linear parameter
-
78. Instantaneous characteristics of power system electromagnetic phenomena is given by typical duration of
(1) 3s – 1 min (2) 30 cycles – 3s
(3) 0.5 – 30 cycles (4) 50 ns – 1 ms
-

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79. Phase information of UPS is of no use during

- (1) voltage dip
- (2) long sags
- (3) interruptions
- (4) All of the above

80. The Total Demand Distortion (TDD) is expressed in terms of

- (1) $TDD = \frac{\sqrt{\sum \frac{I_h^2}{I_L^2}}}{I_L} \times 100\%$
- (2) $TDD = \left(\sqrt{\sum \frac{I_h^2}{I_L^2}} \right) \times 100\%$
- (3) $TDD = \left(\sum \frac{I_h^2}{I_L^2} \right) \times 100\%$
- (4) $TDD = \left(\sum \frac{I_h^2}{I_L^2} \right) \times 100\%$

81. Flat rate tariff can be charged on the basis of

- (1) Connected load
- (2) Units consumed
- (3) Maximum demand
- (4) Both (1) and (2)

82. Two-part tariff is charged on the basis of

- (1) connected load and units consumed
- (2) maximum demand and connected load
- (3) maximum demand and units consumed
- (4) None of the above

83. Ancillary services markets are composed of

- (1) Spinning reserves
- (2) Non-spinning reserves
- (3) Operating reserves
- (4) All of the above

84. The unit for Reactive power is

- (1) KVAR
- (2) KVA
- (3) KW
- (4) None of the above

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P.T.O.

85. Low power factor is usually not due to

- | | |
|------------------------|------------------------|
| (1) Incandescent lamps | (2) Discharge lamps |
| (3) Arc lamps | (4) Induction furnaces |
-

86. For demand side management, the power factor controlling equipment is placed

- (1) At generating station
 - (2) Near transformer
 - (3) Near the apparatus responsible for low P.F.
 - (4) Near bus bar
-

87. Synchronous condenser is virtually a/an

- (1) Induction motor
 - (2) Overexcited synchronous motor
 - (3) Under excited synchronous motor
 - (4) Commutator motor
-

88. The following type of plant has the highest percentage contribution in the Indian energy scenario :

- | | |
|---------------|-------------|
| (1) Coal | (2) Hydro |
| (3) Renewable | (4) Nuclear |
-

89. Maximum Demand meter indicates

- | | |
|-----------------|-----------------------|
| (1) KVA rating | (2) KW rating |
| (3) kVAR rating | (4) None of the above |
-

90. BEE stands for

- (1) Board of Energy Efficiency
 - (2) Bureau of Energy Efficiency
 - (3) Branch of Energy Efficiency
 - (4) None of the above
-

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91. The level of illumination on a surface is least depends on
(1) candle power of source (2) distance of the source
(3) ambient temperature (4) type of reflector used
-
92. The luminous efficiency of high pressure mercury vapour lamps ranges from _____ lumens per watt.
(1) 30 to 40 (2) 60 to 100
(3) 100 to 150 (4) 250 to 400
-
93. Incandescent lamps are _____ affected by input voltage.
(1) least (2) strongly
(3) not at all (4) can't say
-
94. Illumination level in public area should be around
(1) 100 lux (2) 500 lux
(3) 200 lux (4) 1000 lux
-
95. The unit of luminous flux is
(1) Candela (2) Lumen
(3) Lux (4) Steradian
-
96. The illumination level on a surface is least affected by
(1) candle power of light source (2) ambient temperature
(3) type of reflector used (4) distance of the light source
-
97. When light strikes a polished surface, the reflection is
(1) spread (2) specular
(3) diffused (4) Can't say
-
98. 1 foot candle (ftcd) =
(1) 1 lumen/sq.ft (2) 0.1 lumen/sq.ft
(3) 0.001 lumen/sq.ft (4) 10 lumen/sq.ft
-
99. Incandescent lamps operate normally at a power factor of
(1) 0.5 leading (2) 0.5 lagging
(3) unity (4) 0.8 lagging
-
100. Visible spectrum of light has wavelength in the range of
(1) 10,000 – 25,000 Å (2) 4,000 – 7,000 Å
(3) 1,000 – 4,000 Å (4) 100 – 400 Å

सूचना - (पृष्ठ 1 वरून पुढे.....)

- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते कॉपी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जारी केलेल्या “परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचे अधिनियम-82” यातील तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सदर प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपल्यानंतर उमेदवाराला ही प्रश्नपुस्तिका स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षा कक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

नमुना प्रश्न

Pick out the correct word to fill in the blank :

Q. No. 201. I congratulate you _____ your grand success.

- (1) for (2) at
(3) on (4) about

ह्या प्रश्नाचे योग्य उत्तर “(3) on” असे आहे. त्यामुळे या प्रश्नाचे उत्तर “(3)” होईल. यास्तव खालीलप्रमाणे प्रश्न क्र. 201 समोरील उत्तर-क्रमांक “(3)” हे वर्तुळ पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र. क्र. 201. ☐ (1) ☐ (2) ☒ (3) ☐ (4)

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासमोरील संबंधित वर्तुळ पूर्णपणे छायांकित करून दाखवावा. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.

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