

Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021)

Course Name - –Electrical Design Estimation and Costing

Course Code - DEE601

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Answer all the questions. Each question carry one mark.

8. 1. The H.V. side of a 11/0.433 kV, 630 kVA transformer is to be controlled by

Mark only one oval.

- linked switch fuse
- circuit breaker
- isolator
- any of these

9. 2. Which type of cable is used for underground service connections?

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- Low tension 3 $\frac{1}{4}$ core cable
- Low tension 3 $\frac{1}{2}$ core cable
- Low tension 2 $\frac{1}{4}$ core cable
- Low tension 2 $\frac{1}{2}$ core cable

10. 3. Which of the following will needs the highest level of illumination?

Mark only one oval.

- Proofreading
- Bed Room
- Hospital wards
- Railway platforms

11. 4. What should be the spacing between the two conductors if the working voltage is 11 kV?

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- 76 mm
- 101 mm
- 190 mm
- 250 mm

12. 5. Light is a form of

Mark only one oval.

- Heat energy
- electrical energy
- electromagnetic waves
- none the these

13. 6. Calculate the secondary current of a 100 VA, 230 V/23 V, single phase, 50 Hz transformer with efficiency 90%.

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- 4.35
- 3.35
- 5.35
- 6.35

14. 7. The unit of solid angle is

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- Solid Angle
- Radian
- Steradian
- Candela

15. 8. Which IE rule is applicable to service mains?

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- Rule 30
- Rule 33
- Rule 77
- All of these

16. 9. The insulation resistance of a 240V installation having 10 points should not be less than

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- 5 MOhm
- 3 MOhm
- 2 MOhm
- 1 MOhm

17. 10. Most commonly used poles in medium and high voltage line is

Mark only one oval.

- Wood pole
- P.C.C. pole
- tubular pole
- rail pole

18. 11. A room 12.5 m 8 8 m is illuminated with twenty five 100-watt lamps. The mean average candle power of each lamp is 150 cd. Assuming a maintenance factor of 0.8 and an utilization factor of 0.5, determine the average illumination produced on the floor.

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- 185.5 lux
- 188.4 lux
- 190 lux
- 192.6 lux

19. 12. Which among the following information is required for a good estimation?

Mark only one oval.

- Availability of products
- Sources of production, vendor selection
- New products and their quality with price
- All of the above

20. 13. What should be the minimum insulation resistance of a 11 kV line when tested with a 1000 v Megger?

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- 10 kV
- 50 kV
- 33 kV
- 120 kV

21. 14. The most suitable system of general domestic wiring is batten wiring because

Mark only one oval.

- it is cheap
- installation is easy
- gives nice appearance
- All of these

22. 15. As per I.S.S. total load in a light and fan sub-circuit of house wiring installation should not be more than

Mark only one oval.

- 1000 W
- 800 W.
- 600 W.
- 400 W.

23. 16. Maximum temperature rise allowed in oil immersed transformer is

Mark only one oval.

- 30C
- 40C
- 45C
- 50C

24. 17. The main aim of the _____ is to check that the machine received is in good condition and are as per our requirements.

Mark only one oval.

- inspection
- installation
- testing
- commissioning

25. 18. The luminous efficiency of a fluorescent tube is

Mark only one oval.

- 5-10 lumens/watt
- 15-20 lumens/watt
- 30-40 lumens/watt
- 60-65 lumens/watt

26. 19. The ratio of average load over a designated period to the peak load demand occurring in that period is known as

Mark only one oval.

- power factor
- ratchet rate
- load factor
- production factor

27. 20. An area of 30m x 15m is illuminated by 18 lamps each of 500 watts. Efficiency of each lamp is 14 lm/W and the combined M.F. and U.F. = 0.6. The illumination will be

Mark only one oval.

- 56 lux
- 112 lux
- 168 lux
- 224 lux

28. 21. For under frequency operation the eddy current loss

Mark only one oval.

- increases
- decreases
- remains unaltered
- none of them

29. 22. Which state in India does not follow IE (Indian Electricity rules)?

Mark only one oval.

- Sikkim
- Jammu Kashmir
- Nagaland
- Mizoram

30. 23. Which system of collection of sewage is a dry system? _____

Mark only one oval.

- Conservancy system
- Incernation
- Water carriage system
- Biological digestion

31. 24. The Indian electricity rules of 1956 cover

Mark only one oval.

- Inspections of electric installations
- Licensing
- General safety precautions
- All of these

32. 25. In electric discharge lamps' light is produced by

Mark only one oval.

- magnetic effect of current
- heating effect of current
- ionization of gas or vapour
- none the these

33. 26. Two earth leads from the transformer neutral can be connected to

Mark only one oval.

- any one earth electrode
- separate earth electrodes
- the main earth bus
- any of these

34. 27. What is the formula to calculate the number of poles required in LT line distribution?

Mark only one oval.

- Length / Span + 1
- Length / Span + 10
- Span / Length + 1
- Span / Length + 10

35. 28. A Service connection is a connection from the distribution system to the _____

Mark only one oval.

- Factory
- School
- Industry
- Consumer

36. 29. In which wire, switch should be connected?

Mark only one oval.

- Phase
- Neutral
- Earth
- None of these

37. 30. The unit of illumination is

Mark only one oval.

- cd/m²
- lumen
- candela
- lux

38. 31. Find the primary current of a 75 VA, 240/12 V, 50 Hz single phase two winding transformer with efficiency 95%.

Mark only one oval.

- 0.33 A
- 0.23 A
- 0.43 A
- 0.53 A

39. 32. Candela is the unit of

Mark only one oval.

- Luminous flux
- Luminous intensity
- Wavelength
- None of the above

40. 33. For what range is the underground service lines used?

Mark only one oval.

- Distance more than 25 m
- Distance more than 100 m
- Distance less than 1 km
- Distance more than 1 km

41. 34. The insulation resistance of low and medium voltage installation having 100 points should not be less than

Mark only one oval.

- 0.5 M Ohm
- 1 M Ohm
- 5 M Ohm
- 10 M Ohm

42. 35. In a 33 K V line pin insulator is used at

Mark only one oval.

- Terminal pole
- Mid Pole
- Section Pole
- All of these

43. 36. Find the primary turns, of a 75 VA, 240/12 V, 50 Hz single phase two winding transformer with turns per volt is 5.6.

Mark only one oval.

- 1344
- 1244
- 1144
- 1444

44. 37. The radiant efficiency of the luminous source depends on

Mark only one oval.

- The shape of the source
- The temperature of the source
- The wavelength of the light rays
- All of the above

45. 38. The usual spans with R.C.C. poles are.....

Mark only one oval.

- 40-50 metres
- 60-100 metres
- 80-150 meters
- 200-300 meters

46. 39. As per I.E. rules for 415 Volts wiring the conduit used is to be of

Mark only one oval.

- m.s. split conduit
- m.s. screwed conduit
- P.V.C. non rigid conduit
- All of these

47. 40. A building having a load of 15 KW is supplied at 415 volts the standard size of the ictp & N switchfuse to be used in

Mark only one oval.

- 415V,32A
- 500V,30A
- 415V,16A
- 500V,15A

48. 41. Find the primary turns, of a 75 VA, 240/12 V, 50 Hz single phase two winding transformer with turns per volt is 5.6.

Mark only one oval.

- 1344
- 1244
- 1144
- 1444

49. 42. When inspection at the site is carried out?

Mark only one oval.

- after installation
- after commissioning
- after un-loading
- after testing

50. 43. For the same wattage which lamp is cheapest?

Mark only one oval.

- Sodium Vapor Lamp
- Mercury Vapor Lamp
- Fluorescent tube
- GLS Lamp

51. 44. To reduce the power consumption, the capacitors should be locate

Mark only one oval.

- As close as possible to the load
- As far as possible to the load
- Not too close not too far from the load
- All of these

52. 45. Glare is reduced by

Mark only one oval.

- increasing mounting height of lamp
- using diffuser
- using reflector to cut of the light at certain angle
- All of these

53. 46. A small assembly shop 15m * 9m and 3m high is to be illuminated to a level of 200 lux. The co-efficient of utilization is 0.75 and maintenance factor is 0.8. Calculate the number of lamps required to illuminate the whole area, if the lumen output of the lamp selected is 3000 lumens.

Mark only one oval.

- 12 nos
- 15 nos.
- 18 nos
- 20 nos.

54. 47. The benefits for standardization are represented by which of the following?

Mark only one oval.

- Greater availability of suitable products
- More vendor competition
- Affordable prices
- All of the mentioned

55. 48. What should be the minimum depth of trench from the ground level for cables carrying a voltage between 3.3 kV and 11 kV?

Mark only one oval.

- 0.75 m plus radius of complete cable
- 0.45 m plus radius of complete cable
- 1.0 m plus radius of complete cable
- All of these

56. 49. A conventional incandescent lamp has a luminous efficiency of

Mark only one oval.

- 10 lumens / watt
- 12 lumens / watt
- 14 lumens / watt
- 14.6 lumens / watt

57. 50. The cores of transformer are laminate to reduce

Mark only one oval.

- eddy current loss
- hysteresis loss
- copeer loss
- eddy current and hysteresis loss

58. 51. What is the multiplication factor used for the determination of maximum current carrying capacity of an 11 kV line?

Mark only one oval.

- 0.88
- 0.95
- 0.9
- 0.8

59. 52. Which device is used to measure the quantity of water consumed by the consumer?

Mark only one oval.

- Water meter
- Stopcock
- Tube settler
- Gooseneck

60. 53. What does section 44 refer to?

Mark only one oval.

- Penalty for interference with meters
- Penalty for illegal transmission or use of energy
- Penalty for maliciously wasting energy
- Theft of energy

61. 54. Candle power is measure of

Mark only one oval.

- total light energy radiated
- ight energy radiated per second
- light energy radiated per unit solid angle
- none the these

62. 55. The neutral of the consumer's Transformer/standby generator set can be connected to

Mark only one oval.

- two points of supplier's earth
- any two points of the consumer's earthing system
- two electrodes of the consumer's earthing system
- any of these

63. 56. Lightwave travel with a velocity of

Mark only one oval.

- 3×10^{10} cm/s
- 3×10^{12} cm/s
- 3×10^{15} cm/s
- 3×10^{18} cm/s

64. 57. What is the angle between the pole and stay?

Mark only one oval.

- 30
- 45
- 60
- 10

65. 58. Full safety of an electrical installation is insured when it is provided with

Mark only one oval.

- Proper insulation
- low earth resistance
- proper fuse in circuit
- All of these

66. 59. The minimum statutory ground clearance of low and medium voltage service line erected along a street shall not be less than

Mark only one oval.

- 5m
 5.5m
 5.8m
 6.1m

67. 60. Find the cross section of the primary conductors of a 75 VA, 240/12 V, 50 Hz single phase two winding transformer with current density 2.3 A/sq. mm.

Mark only one oval.

- 0.14 sq. mm.
 0.41 sq. mm.
 0.23 sq. mm.
 0.32 sq. mm.

68. 61. Carbon arc lamps are commonly used in

Mark only one oval.

- Domestic lighting
 Street lighting
 Photography
 Cinema Projector

69. 62.What is the reason for excess reading of the energy meter?

Mark only one oval.

- Defective wiring
- Meter defects
- Over voltage
- Both (A) & (B)

70. 63. As per I.S.S. the minimum size of conduit is to be

Mark only one oval.

- 13 mm
- 16 mm
- 19 mm
- 25 mm

71. 64.In house wiring looping in method the neutral can be looped in & out from

Mark only one oval.

- ceiling rows
- switch
- amp holder
- All of these

72. 65. Calculate the primary current of a 100 VA, 230 V/23 V, single phase, 50 Hz transformer with efficiency 90%.

Mark only one oval.

- 0.48 A
- 0.59 A
- 0.38 A
- 0.69 A

73. 66. What is meant by petty purchase?

Mark only one oval.

- An item purchased from market by purchase assistant with proper formal order.
- An item purchased from market by purchase assistant without proper formal order.
- A single tendering purchase
- None of these

74. 67. Which test(s) is / are conducted after completion of erection of 11 kV line but before energisation of lines?

Mark only one oval.

- Conductor continuity tests
- Earth resistance tests
- Insulation resistance tests
- All of these

75. 68. For voltage boosting in distribution networks the capacitors used is

Mark only one oval.

- Series capacitors
- Shunt capacitors
- any way
- no way

76. 69. Most commonly used domestic power supply in India is

Mark only one oval.

- 415/240-V.a.c
- 450/225-Vd.c.
- 650/250-Va.c.
- none of these

77. 70. An office 30 m * 15 m is illuminated by 40 W fluorescent lamps of lumen output of 2700 lm. The average illumination required is 200 lux. Calculate the number of lamps required to be fitted in the office. Co-efficient of utilization = 0.6 and depreciation factor = 1.25.

Mark only one oval.

- 65
- 70
- 75
- 78

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