

Model Questions

- 1) Four batteries of open circuit voltages 220, 230, 240 and 250V and internal resistance 0.1, 0.1, 0.25 and 0.2 Ohms respectively are joined in parallel across a 5 Ohms resistor, calculate the combined load?
 - (a) 11KW
 - (b) 15KW
 - (c) 8KW
 - (d) 10.5KW
- 2) What is the maximum length in KM for a 1-Q transmission line having copper conductors of 0.775CM² cross section over which 200KW at unity power factor and at 3300V are to be delivered? The efficiency of transmission is 90 percent. Take specific resistance as 1.725 Ohms-CM
 - (a) 8KM
 - (b) 13.6KM
 - (c) 12KM
 - (d) 18KM
- 3) Why motors are rated as kW while transformer rated in KVA?
- 4) What will happen if DC supply is given on the primary of a transformer?
- 5) Lighting protection system (LPS) is delivered in to _____ number of levels as per National building Code 2016
 - (a) 1
 - (b) 2
 - (c) 3
 - (d) 4
- 6) As per standard colour coding, the colours of protective conductor is _____ and _____
 - (a) Grey & Yellow
 - (b) Green & Yellow
 - (c) Black & Green
 - (d) Green & Green
- 7) In the building, the equipment and wiring of the fire alarm system shall be independent of any other equipment, and it shall be placed at least _____ cm away from each other and other wiring
 - (a) 5CM
 - (b) 10CM
 - (c) 15CM
 - (d) 20CM

- 8) What is maximum earth leakage threshold current specified for tripping the domestic connection on the occurrence of fault under safety regulation?
- (a) 20ma
 - (b) 30ma
 - (c) 50ma
 - (d) 100ma
- 9) The symbol in electrical drawing i.e. represents to which item of installation
- (a) Earthing
 - (b) Underground cable
 - (c) Four wire O/H line
 - (d) Flexible conductor
- 10) What is the permissible maximum temperature of surrounding space for ordinary insulated cables where insulation is PVC?
- (a) 70°C
 - (b) 80°C
 - (c) 65°C
 - (d) 45°C
- 11) What is the basic requirement, if a contact potential of 65V for human body, the maximum tolerance limit of time is _____ seconds.
- (a) 10 sec
 - (b) 20 sec
 - (c) 30 sec
 - (d) 40 sec
- 12) What should be minimum acceptable insulation resistance of a wiring during inspection & testing when number of points are 10?
- (a) 10M Ohms
 - (b) 5M Ohms
 - (c) 3M Ohms
 - (d) 1M Ohms
- 13) What is the maximum permissible number of 1.1KV grade single core cables of 1.0MM² (cross sectional area) that may be drawn upto 16mm size of conduit?
- (a) 3
 - (b) 4
 - (c) 5
 - (d) 7

- 14) Miniature Circuit Breaker is used for _____ protection. _____ tripping mechanism is used tripping the device in short circuit condition.
- (a) Overload, Thermal
 - (b) Overload & short circuit, Thermal
 - (c) Overload & short circuit, Magnetic
 - (d) Short circuit, Magnetic
- 15) In a residential premises considering only resistive load, which type of MCB should be recommendable?
- (a) B-Curve MCB
 - (b) C-Curve MCB
 - (c) D-curve MCB
 - (d) Any kind of MCB with appropriate current rating.
- 16) A floor measures 10m X 25 M, it is illuminated with 24 lamps of 200 watt each. The lumen efficiency of each lamp is 15 lumen per watt. Depreciation factor 0.8 and utilisation factor 0.5, determine the illumination (Lux) available in the working plane.
- (a) 115 Lux
 - (b) 230 Lux
 - (c) 92 Lux
 - (d) 184 Lux

Answer Question

A newly constructed building is to be connected with electrical supply through an underground feeder and feeding substation is at a distance of 1.5 Km away. The connected load in the building is 450 KW at 400 Volt, 3 phase. Assuming diversity factor of 0.6 and power factor of 0.8. Pls interpret and suggest must appropriate one from the following considering maximum 5% voltage drop is allowed.

Current Rating and resistance of underground Multi core Aluminium conductor 1100 Volt

Nominal Area in sq mm	Current rating in ampere	Resistance in ohm per Km per ampere at 20 degree Celsius
240	413	0.1165
300	438	0.107
400	513	0.07069

- 17) The feeding Cable to be selected (technically as well as economically) for supplying load current of _____ Ampere.
- (a) 487 Amp
 - (b) 811 Amp
 - (c) 400 Amp
 - (d) 438 Amp

18) As per the table provided in the paragraph, the size of the cable to be selected

- (a) 300 sq mm
- (b) 240 sq mm
- (c) 400 sq mm
- (d) Any of the above.

19) Calculated voltage drop _____

- (a) Less than 5% hence such design is feasible
- (b) Less than 10% ,hence such design is feasible
- (c) More than 10%, Hence such design is not feasible
- (d) None of the above.