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| Code: A-E 730126 - A | **I SEMESTER EXAM. - 2023-24** | 2 x 160 |
| Std.: XII | Sub: Electrical Maintenance - I | Marks: 40 |
| Date: 04/11/23 | Roll No.: _____ | Time: 2 ½ hrs. |

**Q.1) Fill in the blanks (any four)** 4

a) Fusing element is ordered in the market by its _____ .
   i. fusing current
   ii. resistance
   iii. normal rating current

b) Higher the number of wire gauge _____ is the diameter.
   i. equal
   ii. smaller
   iii. higher

c) In no case the insulation resistance of an electrical installation should be less than _____ .
   i. 1 Ω
   ii. 1K Ω
   iii. 1M Ω

d) The conductors of VIR wire are tinned because _____ .
   i. corrosion is restricted
   ii. rubber is prevented to stick up with conductor
   iii. increases current carrying capacity

e) The leakage current of a wiring system is the ratio of voltage to _____ .
   i. circuit current
   ii. load resistance
   iii. insulation resistance

f) Underground cabling is provide for _____.
   i. longer distance
   ii. shorter distance
   iii. longest distance

**Q2) Attempt any three** 6

a) Draw a neat and labelled circuit diagram of autotransformer starter,
b) Draw constructional diagram of Moving Iron Repulsion type instrument,
c) Draw a neat and labeled circuit diagram of 3-point godown wiring,
d) Draw a neat and labeled circuit diagram of one point series-parallel testing board,
e) Draw a neat and labeled circuit diagram of D.O.L. starter.

**Q3) Attempt any three** 6

a) Draw symbols of the following:
   i. Two-way switch
   ii. D.C. Voltmeter
   iii. Earthing
   iv. Fault

b) Write down the types of overheard line insulators.

c) Write a short note on cleat wiring.

P.T.O

d) What are the properties of conductor? Write any four.

e) Name the types of switches and give their specifications.

**Q4) Attempt any two** 6

a) Explain with neat sketch the construction and working of kit-kat fuse unit.

b) What are the points to considered for selecting any wiring system? Explain in short.

c) Compare overhead transmission with underground cable transmission.

**Q5) Attempt any two** 6

a) Define:
i) Minimum fusing current
ii) Current rating of fuse element
iii) Fusing factor

b) Which precautions are taken while doing metal conduit wiring?

c) What are different methods of cable laying? Explain any one with diagram.

**Q6) Attempt any two** 12

a) State I. E. rules related to general domestic electrical wiring.

b) What tests are to be carried out before supplying a new installation? Explain any two with neat circuit diagrams.

c) What are the different house wiring systems? Compare different wiring systems in tabular form.

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