Utilization of Electrical Energy and Traction

6th sem / EE, Full Mark - 70

No1 Answer All the question of the following (2×10)

(a) State the Faraday's 2nd law of electrolysis.
(b) Define utilisation factor.
(c) Define brightness
(d) Mention the types of Electric heating.
(e) Mention the types of arc welding.
(f) Define lamp efficiency
(g) State any three applications of synchronous motors.
(h) Selection of motor depends upon which factors.
(i) what is group drive
(j) which motors are used for the punches.

No2 Answer any six of the following questions. (5×6)

(a) what are the applications of electrolysis.
(b) Briefly explain about metal arc welding.
(c) State the essential electrical and mechanical characteristics of traction motors.
(d) Explain polar curve in illumination.
(e) State advantages of Electric heating.
(f) Explain different types of lighting schems.
(g) Explain the operation of a core type induction furnace.

Answer any ~~three~~ two questions [2X10]

NO3 what are the types of Resistance welding, Explain with a neat sketch about different types of Resistance welding.

NO4 Explain tapped field control of dc series traction motor with diagram.

NO5 Discuss the two laws of Illumination.

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(Set-3)

No1) Answer all queshons!

(a) write the application of AC series motor.

(b) Define Radiant efficiency.

c) In dc arc welding intense heat is generated at which electrode.

d) which method of breaking is most efficient

e) Define intensity of illumination

f) which type of drive requires long running shaft.

g) Define MHSCP

(h) what do you mean by electroplating?

(i) which motors are prefere for lifts.

(j) what types of materials ~~used~~ are used as filaments in the bulbs.

No2. Answer any six queshons [5x6]

(a) Explain Faraday's laws of electrolysis.

(b) make a comparative statement between group drive and individual drive.

c) Explain regenerative breaking in electric traction system.

d) state explain the two laws of illumination.

e) what are the basic requirements for motors to be used for electric traction.

(f) Explain different types of lighting schemes.

(g) write short note on Electrode position.

NO3 Explain with neat diagram the working of a fluorescent lamp with glow type starter. [10]

NO4 Name different types of arc welding and explain them. [10]

NO5 Estimate the number and wattage of lamps which would be required to illuminate a workshop space 60 x 20 mts by means of lamps mounted 5 meters above the working plane. The average illumination required is about 100 lux, coefficient of utilisation = 0.4, luminious efficiency 16 ~~lumen~~ lumens per watt. Assume a space-height ratio of unity and a candle power depreciation of 25%. [10]

Utilization & Electrical Energy and Traction

6th sem/EE Full Mark - 70 (Set-4)

No1 Answer All questions. (2×10)

a) what are the modes of heat transfer
b) what is Luminous flux
c) Define welding
d) what is arc type welding.
e) write any three advantages of electric heating.
f) what is Brightness.
g) which type of Ac motor is used for constant speed operation?
h) Define reduction factor.
i) what types of materials are used as filament in the ~~bulb~~ bulbs.
j) state Faraday's Law of electrolysis.

No2 Answer any six questions [5×6]

a) what are the advantages of electric heating.
b) with neat sketch explain about sodium vapour lamp.
c) compare DC & Ac traction motors.
d) Explain careless type induction furnace with sketch.
e) write application of induction motors.
f) write general features of Traction motor.
g) Explain Faraday's laws of Electrolysis.

NO3 with neat sketch, discuss the construction, working of a HP mercury vapour lamp. [10]

NO4 Explain the metadyne speed control of DC traction motors. [10]

NO5 A filament lamp of 1000 W is suspended at a height of 6m above the working plane and gives uniform illumination over an area of 4m dia. If the efficiency of the reflector is 70%, Determine the illumination on the working plane. Efficiency of the lamp is 0.8 W/c.p. [10]