

IV-SEM MECHANICAL ENGG./MECH.(PROD.)/ 2019(W)

EET-422/MET-421 ELECTRICAL TECHNOLOGY

Full Marks:80

Answer any FIVE questions including Q1 and Q2

Time: 3hrs

Figures in the right hand margin indicate marks

1.	Answer ALL the questions. a) What is slip in 3-Phase Induction Motor? b) Define voltage transformation Ratio. c) How to reverse the direction of rotation in 3-Phase Induction Motor? d) What do you mean by electroplating? e) Classify the types of DC Motor. f) What is primary transmission? g) What are the types of torques operating in measuring instruments? h) Write any two differences between AC supply and DC supply. i) What are the applications of synchronous Motor? j) Name the SI Units of electrical Energy and Power?	2x10
2.	Answer any six questions. a) What are the differences between auto Transformer and 2-winding Transformer? b) Draw the typical AC power supply scheme and explain it briefly. c) Explain about the speed-torque characteristics of DC Motor. d) What are the different types of resistance welding? Explain it briefly. e) Explain the principle of operation of PMMC instrument. f) What are the advantages of DC transmission over AC transmission? g) Differentiate between Induction Motor and Synchronous Motor.	5x6
3.a)	What are the types of starter used to start 3 phase induction motor?	3
b)	Find out the relationship between line quantities and phase quantities in case of star connection with phasor diagram.	7
4.a)	A single phase transformer has 400 primary and 1000 secondary turns. Find out the i) Transformation ratio, ii) Secondary emf, if the primary winding is connected to a 50 Hz supply at 500V.	3
b)	Explain the construction and principle of operation of 3 phase alternator.	7
5.a)	Explain briefly the various forms of electrical heating.	3
b)	Draw a layout of nuclear power plant and explain its operation.	7