Enrollment No……

Master of Technology
Third Semester Main Examination, Dec-2020
Power System Instrumentation [MTPS301(1)]

Time: 3:00 Hrs **Max Marks 70**

Note: (i) Attempt any five questions out of eight.
(ii) Each questions carry equal marks.
(iii) Assume suitable data if necessary and state them clearly.

Q.1 (a) Explain the Various Type of Indicating Devices used for Power system Instrumentation.
(b) What is Recorders? Classify its type in detail.

Q.2 (a) What is Transducers? Classify in detail with example. Describe temperature Measuring transducer in detail.
(b) Describe Velocity speed and acceleration Measurement transducer in detail.

Q.3 (a) Explain data acquisition system with the help of suitable diagram.
(b) Explain Time division multiplexing with the help of suitable diagram.

Q.4 (a) Explain digital modulation techniques for data transmission with the help of suitable diagram of each steps.
(b) Differentiate Between single channel and multichannel data acquisition system.

Q.5 (a) Define signal conditioning of inputs and supervisory control system.
(b) Describe Solar Flux Measuring Device in detail.

Q.6 (a) Explain Sensors and Actuators in detail.
(b) Describe the working of a Gas analyzers with the help of suitable diagram.

Q.7 (a) Describe data loggers system with the help of suitable diagram.
(b) Draw the block diagram of D/A and A/D converter and explain its working in detail.

Q.8 Write short note on – (any three)
(i) Pressure Measurements. (ii) Pollution monitoring devices.
(iii) Solar flux measuring devices. (iv) Modulation Techniques

Enrollment No……

Master of Technology
Third Semester Main Examination, Dec-2020
Advanced Electrical Drives [MTPS302(2)]

Time: 3:00 Hrs **Max Marks 70**

Note: Attempt any five questions. All questions carry equal marks.
Assume suitable data if necessary and state them clearly.

Q.1 (a) What are various components of load torques? Discuss the concept of load equalization.
(b) Explain Electric Breaking in detail.

Q.2 (a) Draw the Block Diagram of Close loop control of I.M. Drives.
(b) Draw and explain the operation of a closed-loop speed control scheme of dc motor drive.

Q.3 (a) Explain 1-phase fully controlled converter drive connected to separately excited D.C. motor. Derive speed- torque relation and draw speed – torque characteristics for different firing angle.
(b) Explain three phase I.M., analysis and performance with the help of suitable diagram.

Q.4 (a) Explain stator voltage control method of speed control of 3-phase induction motor.
(b) Describe various PWM techniques applied for the speed control of 3-phase induction motor

Q.5 (a) Explain VVVF method of speed control of 3-phase IM drives with closed loop scheme.
(b) Explain the Operation with unbalanced source voltages and single phasing of three phases Induction Motor.

Q.6 Write shorts notes on:
(i) Synchronous reluctance motor.
(ii) Hysteresis synchronous motor.
(iii) Solar and battery powered drives.
(iv) Switch reluctance motor drives

Q.7 (a) Compare Single phase and three phase Induction motor drives.
(b) Draw and Explain CSI fed synchronous motor drives.

Q.8 (a) Why the slip power recovery scheme is suitable mainly for drives with a low speed range? Explain with necessary diagram.
(b) What are various components of load torques? Discuss the concept of load equalization.