

Code No: 138GG**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year II Semester Examinations, September - 2020****INTRODUCTION TO MECHATRONICS****(Mechanical Engineering)****Time: 2 Hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

1. a) Discuss briefly the mechatronic systems in Engine management system.
b) Explain the classification of filters based on passing and attenuating of frequencies.[7+8]
- 2.a) Discuss briefly the mechatronic systems in automatic camera
b) What are the desirable characteristics of electronic amplifiers? [7+8]
3. What are the elements of a measurement system and sketch its block diagram? [15]
4. List out and explain various design aspects in machine elements. [15]
- 5.a) Explain in detail the various characteristics of DC & AC Motors.
b) Explain the working principle of stepper motor. [8+7]
- 6.a) With a neat sketch, explain the internal architecture of 8051 Microcontroller.
b) Write about DC power supplies. [8+7]
7. Explain briefly about any one of the analog to digital converter. [15]
- 8.a) Differentiate between position and proximity sensor.
b) Write about Record position, GOTO Position and its Applications. [7+8]

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