

	Subject Code: KME101T											
Roll No:												

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## B.TECH (SEM I) THEORY EXAMINATION 2020-21 FUNDAMENTALS OF MECHANICAL ENGINEERING & MECHATRONICS

Time: 3 Hours Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

## **SECTION A**

Question   Question   Question   Marks   CO	1.	Attempt all questions in brief.	2 x 10 =	<b>= 20</b>				
b. Explain Poisson's ratio. c. Explain COP of refrigerator. d. What are Newtonian and Non-Newtonian Fluids? e. Differentiate between accuracy and precision? d. Explain pressure control valves? g. Differentiate between open loop and closed loop? d. What is Tolerance? Explain. Define Hooks law? d. What is Tolerance? Explain. Define Hooks law? d. What is Tolerance? Explain. Define Hooks law? d. What is Scavenging process?  SECTION B  Attempt any three of the following: d. With a neat sketch explain the working of a two stroke SI engine. Differentiate between Hole basis and Shaft basis system with neat diagrams. C. What are hydraulic pumps? Enlist the various types of pumps. d. Explain the working of a domestic refrigerator with a neat sketch. Differentiate between Hole basis and Shaft basis system with neat diagrams. C. What are Autotronics, bionics and avionics? Write their applications? Differentiate between Hole basis and Shaft basis system with neat diagrams. C. What are Autotronics, bionics and avionics? Write their applications? Differentiate between Hole basis and Shaft basis system with neat logical diagrams.  C. What are Autotronics, bionics and avionics? Write their applications? Differentiate between Hole basis and Shaft basis system with neat logical diagrams.  SECTION C  3. Attempt any one part of the following:  a. With a neat sketch explain the working of a four stroke CI engine. Differentiate between Hole basis and avionics? Write their applications? Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material. Draw the stress strain diagram for ductile and brittle material.  Attempt any one part of the following	Qno.	Question	Marks	CO				
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