

*Total No. of Questions :8]*

*[Total No. of Printed Pages :2*

**Roll No .....**

## **ME-114-CBCS**

### **B.E. I & II Semester**

Examination, June 2020

### **Choice Based Credit System (CBCS)**

### **Fundamentals of Mechanical Engineering**

***Time : Three Hours***

***Maximum Marks : 60***

**Note :** i) Attempt any five questions.

ii) All questions carry equal marks.

1.
  - a) Discuss various types of power plants.
  - b) Draw Rankine and Joule cycle on P-V and T-S diagrams and explain their working.
2.
  - a) With the help of a neat sketch explain Brinell Hardness test?
  - b) With the help of a neat sketch explain Rockwell hardness test?
3. Write down the working of domestic refrigerator with the help a of neat sketch.
4.
  - a) What is the function of a Spring? Classify springs according to their shapes. Give the applications of various types of springs.
  - b) What is the function of belt drive? Classify belt drives. What are the advantages and disadvantages of flat belt drive?

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5. a) What is a Joule cycle? When it is used?  
b) Name two applications of centrifugal pump.
6. What is drilling? Draw a neat sketch of a drilling machine.

OR

- a) State 2<sup>nd</sup> law of thermodynamics.  
b) Name all boiler mountings and their function.
7. What is a Lathe Machine? Name its different parts and their function. Draw a neat sketch also.

OR

Draw a labelled diagram of Pelton wheel.

8. Write short notes on any two of the following:
- a) Centrifugal pumps.
  - b) Inversion of four bar chain
  - c) Boiler accessories
  - d) Plastic deformation
  - e) Iron-Carbon equilibrium diagram

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