

Total No. of Questions : ۸

Total No. of Printed Pages : ۱

Roll No.....

BE-۲۰۳ (GS)

B. E. I & II Semester Examination, June 2020

Grading System (GS)

Basic Mechanical Engineering

Time : Three Hours

Maximum Marks : ۷۰

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

- 1.a) Explain the various mechanical properties of material.
b) What is carbon steel?
- 2.a) Describe the construction and use of a sine bar. How will you measure taper of a job with the help of a sine bar?
b) Enumerate various operations which can be performed on lathe.
- 3.a) State Pascal law. What do you mean by vacuum pressure.
b) State Bernoulli's theorem and mention the assumptions involved in it.
4. Differentiate between the following:
 - i) Laminar and turbulent flow
 - ii) Turbine and compressor
5. What is lathe? Discuss the various parts of the lathe.
OR
Define Hooke's law and explain stress-strain diagram of a ductile material.
6. A reversible heat engine delivers 0.5 kW power and rejects heat energy to a reservoir at 290 K at the rate of 22 kJ/min. Determine the cycle efficiency and temperature of the thermal reservoir supplying heat to the engine.
OR
Explain the working of a 4-stroke diesel engine with neat sketch.
- 7.a) Explain the following mechanical properties
 - i) Hardness
 - ii) Strength
 - iii) Elasticity
 - iv) Fatigue
b) Explain any one method of measuring Hardness of a material in detail.
8. Write short notes on (any two):
 - a) Dial gauge
 - b) Machinability
 - c) Natural draught
 - d) Alloy steel

BE-203 (GS)