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Roll No

IP/IEM/ME/PR-603 (GS)

B.E. VI Semester Examination, June 2020

Grading System (GS)

Metal Cutting and CNC Machine

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Calculate the machining time required to reduce from 60mm dia shaft to 50mm diameter for a length of 1500mm with depth of cut 2mm for rough cut and 1mm for finish cut. Cutting speed and feed are 30m/min and 0.5mm/rev. respectively.

OR

A workpiece of 100mm in diameter is to be turned in a lathe machine. What will be the r.p.m. of head stock spindle to attend a cutting speed of 25m/min?

2. What is a single point cutting tool? Explain the complete Nomenclature of a single point cutting tool with the help of neat sketches.
3. a) What are the different types of lathes? Discuss in brief.
b) Explain the various important accessories of a lathe machine.
4. Describe the main consideration while heat treating a broach.
5. Sketch a neat diagram, showing important components of Radial Drilling Machine.
6. What is part programming? Explain the different steps during the preparation of a part program.
7. Draw a labeled diagram of a Lathe Machine. State functions of important components.
8. Write short notes on:(Any two)
a) Principle of gear hobbing process
b) Benefits of CNC machine over NC machines
c) Automatic feed mechanism of a shaper
