

Duration: - 3 hours

Marks: 80

- 1) Question No. **ONE** is compulsory.
- 2) Attempt any **THREE** questions from remaining **FIVE** questions
- 3) Support your answer with sketch wherever necessary
- 4) All questions carry equal marks



- Q.1) Attempt any four** (20)
- a) Briefly explain Roller burnishing process.
 - b) Why and how the balancing of grinding wheel is done?
 - c) How the manufacturing processes are classified?
 - d) Write the important parameters for specifying Lathe, Milling and Drilling machine.
 - e) Differentiate between Shaping and Planing machine (give five points)
- Q.2)** a) With adequate sketches explain two methods of Gear hobbing. (10)
b) Write the advantages and disadvantages of any five bonds used for manufacturing grinding wheel. (10)
- Q.3)** a) Estimate the machining time for cutting M16 x 2, double start threads, 50 mm long in eight passes on m.s. workpiece by HSS tool. (5)
b) A workpiece having projected surface area of 300 x 200 mm is to be surface milled by 75 mm dia face mill cutter in single pass. Calculate the machining time. (5)
c) Explain briefly the most commonly used mass production process for cutting external threads. (10)
- Q.4)** a) Explain the tool nomenclature for single point tool. Also state advantages of various angles provided on the tool. (10)
b) Explain the fundamental principles of Deep hole drilling machining. (5)
c) Draw the sketch depicting application of horizontal boring machine. (5)
- Q.5)** a) Estimate the time required for tapping four holes on a drilling machine on m.s. plate 50 mm thick. HSS Machine tap M25 x 2.5 is provided. (10)
b) Draw and label the sketch of circular four spline broach. (5)
c) Explain the whitworth quick return mechanism for slotting machine. (10)
- Q.6) Write explanatory note. (Any four)** (20)
- a) Abrasive cutting off machines.
 - b) Surface broaching.
 - c) Difference between polishing and buffing.
 - d) Gear shaving.
 - e) Trueing and dressing in case of grinding wheel.
