

S.E. (Prod.) (First Semester) EXAMINATION, 2011

MACHINE TOOL OPERATIONS

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Solve *three* questions from each Section.

(ii) Use separate answer-sheet for each Section.

(iii) Assume suitable data, if required.

SECTION I

1. (a) Explain principle of thread cutting mechanism used in lathe with suitable sketch. [6]
- (b) Discuss various terms used in lathe specification with suitable sketches. [6]
- (c) Compare Capstan and Turret lathe with suitable sketches. [6]

Or

2. (a) Explain all geared headstock with suitable sketch. [6]
- (b) Explain various types of rests used in lathe with suitable sketches. [6]
- (c) The pitch of leadscrew is 12 mm and the pitch of the thread to be cut is 3 mm. Find change gears and draw a suitable sketch. [6]

P.T.O.

3. (a) Explain working of sensitive drilling machine with suitable sketch. [8]
(b) Explain types of drills with suitable sketches. [8]

Or

4. (a) Discuss various types of reamers with suitable sketches. [8]
(b) Explain working of floating holder used in drilling machine with suitable sketch. [8]

5. (a) List various types of milling machines and explain column and knee type with suitable sketch. [8]
(b) Explain working of universal dividing head with suitable sketch. [8]

Or

6. (a) Explain upmilling and downmilling with suitable sketches. [8]
(b) Index 63 divisions by compound indexing. [8]

Plate I	Plate II	Plate III
15	21	37
16	23	39
17	27	41
18	29	43
19	31	47
20	33	49

SECTION II

7. (a) Explain working of hydraulic mechanism used in shaper with suitable sketch. [9]
- (b) Explain working of Automatic feed mechanism used in shaper with a suitable sketch. [9]

Or

8. (a) Explain open and cross belt mechanism used in planer with suitable sketch. [9]
- (b) Explain various types of broaching machines with suitable sketches. [9]

9. (a) Explain internal centreless grinding with suitable sketch. [8]
- (b) Explain types of bonds used in grinding wheels. [8]

Or

10. (a) Explain grit, grade, structure of wheels. [8]
- (b) Explain mounting of grinding wheel with suitable sketch. [8]
11. (a) Explain metal spraying with suitable sketch. [8]
- (b) Explain lapping with suitable sketch. [8]

Or

12. Write short notes on the following :

[16]

- (i) Buffing
- (ii) Superfinishing
- (iii) Honing.

s t u p i d s i d