UE 10907J

Exam.Code:0940
Sub. Code: 7097

2062
B.E. (Mechanical Engineering)
Fourth Semester
MEC-404: Manufacturing Technology

Time allowed: 3 Hours Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section. Assume any missing data.*

x-x-x

1. (i) Define feed. Write its unit.
(ii) Write at least four different name of taper turning methods.
(iii) What do you mean by 'balancing of grinding wheel'? Write its significance.
(iv) How will you specify the milling machine? Answer with justification.
(v) What is bar feed mechanism? Write is purpose.
(vi) Distinguish between planer and slotter.
(vii) What do you mean by gear shaper process? Write its application.
(viii) How screw threads are classified? Answer briefly.
(ix) What is thread grinding? Write its importance.
(x) Write the main purpose of super finishing. 1 x 10 = 10

Section A

2. (i) Write the name of the different types of chips formed during metal cutting and explain the mechanism of chips formation.
(ii) What is tool life? Write Tailor tool life equation and explain its significance. Give a simple sketch of the turret indexing mechanism and write its application.

4 + (2 + 4) = 10

3. (i) Explain the principle of thread cutting by a single point cutting tool on a centre lathe with a simple sketch. Calculate the gear train for cutting a screw thread of 7 mm pitch on a lathe having lead screw of 4 threads per inch.
(ii) Give a simple sketch and explain the function of quick return mechanism of shaping machine.

(3 + 2) + 5 = 10

4. (i) What is indexing? Explain its significance. Give a simple sketch of a multipoint cutting tool and level all important point.
(ii) Explain the working principle of drilling machine. Write the name of common different cutting tool materials. Why these are commonly used as cutting tool materials? Explain.

(1+1+ 3) + (2+3) = 10

Section B

5. (i) Explain the method of codification and selection of a grinding wheel with example. What do you mean by 'loading and truing'? Explain with justification.
(ii) What do you mean by error of screw threads? Explain with justification.

(4 + 3) + 3 = 10

P.T.O.

6. (i) What do you mean by gear teeth terminology. Give a simple sketch of a gear and explain. Define hobbing process. State and explain the principle of cutting a bevel gear with a suitable sketch.

(ii) What do you mean by metal spraying? Explain its importance with an example.

$(3 + 1 + 4) + 2 = 10$

7. (i) Explain the process of thread milling with a simple sketch.

(ii) Write short notes on the followings:

(a) Electro-plating and anodizing,

(b) Buffing and superfinishing

$4 + (3+3) = 10$

x-x-x