

B.Tech II Year II Semester (R20) Regular & Supplementary Examinations August/September 2023

MANUFACTURING TECHNOLOGY

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Mention the effects of side rake angle. | 2M |
| (b) Define cutting force. | 2M |
| (c) Write down the formula for calculating taper turning angle by compound rest method. | 2M |
| (d) Mention types of lathes operations. | 2M |
| (e) List types of boring machines. | 2M |
| (f) "Reaming operation is essential for performing tapping" – Justify. | 2M |
| (g) State the function of clapper block in a planner. | 2M |
| (h) Define Honing. | 2M |
| (i) Mention the locating methods. | 2M |
| (j) Differentiate between jigs and fixtures. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | | |
|-----------|---|-----|
| 2 | Explain orthogonal cutting with its neat sketches. | 10M |
| OR | | |
| 3 | Explicate the different type of cutting fluids used in machining process. | 10M |
| 4 | Compare and discuss turret and capstan lathes. | 10M |
| OR | | |
| 5 | Elaborate the operations performed in drilling machines with neat sketches. | 10M |
| 6 | Explain the tool holding devices and nomenclature of reamers. | 10M |
| OR | | |
| 7 | Illuminate the principle of working, specifications and types of taps. | 10M |
| 8 | With a simple sketch, explain the working of the crank and slotted link quick return motion mechanism used in shaper. | 10M |
| OR | | |
| 9 | Elaborate on grinding process parameters. | 10M |
| 10 | Explicate the principles of design of jigs and fixtures and also state its uses. | 10M |
| OR | | |
| 11 | Explain the classification of jigs and fixtures with typical examples. | 10M |

B.Tech II Year II Semester (R20) Regular & Supplementary Examinations April/May 2024

MANUFACTURING TECHNOLOGY

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- | | |
|---|----|
| (a) Compare single and multi-point cutting tools. | 2M |
| (b) State the factors responsible for built-up edge in cutting tools. | 2M |
| (c) List the advantages of using tool holding devices. | 2M |
| (d) State the difference between a blind hole and a through hole. | 2M |
| (e) Mention the types of reamers. | 2M |
| (f) State the nomenclature of taps. | 2M |
| (g) Write down any four differences between shaper and planer. | 2M |
| (h) Compare up milling and down milling. | 2M |
| (i) Mention the locating methods. | 2M |
| (j) State the elements of jigs and fixtures. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | | |
|----|---|-----|
| 2 | Discuss about Merchant circle diagram with neat sketch. | 10M |
| | OR | |
| 3 | Elucidate the different types of cutting fluids used in machining process. | 10M |
| 4 | Explicate the tooling layout for the production of a hexagonal nut in a Turret lathe. | 10M |
| | OR | |
| 5 | With the neat sketch, explain nomenclature of twist drill. | 10M |
| 6 | Illuminate on tool holding devices used in boring machines with sketch. | 10M |
| | OR | |
| 7 | Discuss the tool holding devices and nomenclature of taps. | 10M |
| 8 | With a simple sketch, explain the working of the crank and slotted link quick return motion mechanism used in shaper. | 10M |
| | OR | |
| 9 | Discuss about mounting and reconditioning of grinding wheels with neat sketch. | 10M |
| 10 | Explain 3-2-1 principle of location with sketch. | 10M |
| | OR | |
| 11 | Illuminate on work holding devices used for jigs and fixtures with neat sketch. | 10M |
