



C20-M-406

7459

BOARD DIPLOMA EXAMINATION, (C-20)
OCTOBER/NOVEMBER—2023
DME – FOURTH SEMESTER EXAMINATION
PRODUCTION TECHNOLOGY—II

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List out any six types of milling machines.
2. Name any three work holding devices used for milling operations.
3. Write any six methods of gear manufacturing.
4. List three materials used for manufacturing of gears.
5. Name any three different abrasives used in grinding wheels.
6. List out any six types of organic coatings.
7. State any three advantages of using jigs and fixtures.
8. Name any six types of clamps.
9. State any two major limitations of modern machining processes.
10. State the principle of chemical machining.

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Draw a line diagram of a vertical milling machine and explain the functions of its parts.

(OR)

(b) Explain the principle of simple indexing method used in milling with a neat sketch.

12. (a) Describe with a neat sketch the working of gear shaping process using pinion cutter.

(OR)

(b) Explain the following methods of heat treatment of gears :

(i) Carburizing

(ii) Nitriding

13. (a) Draw a neat sketch of centreless grinding machine. Explain its basic elements.

(OR)

(b) Write short notes on (i) lapping and (ii) honing.

14. (a) Draw a line diagram of cross-rail jig boring machine and label the parts. Explain its working.

(OR)

(b) Explain various hole location methods with the help of sketches.

15. (a) Describe the ultrasonic machining with a sketch and write its applications.

(OR)

(b) Explain the operation of electro discharge machining with a neat sketch and write its applications.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 16.** Index 91 divisions for milling a given machine component using compound indexing method and mention the movements of crank and index plate.

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