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C20-M-306

**7261**

**BOARD DIPLOMA EXAMINATION, (C-20)  
OCTOBER/NOVEMBER—2023**

**DME – THIRD SEMESTER EXAMINATION  
PRODUCTION TECHNOLOGY—I**

Time : 3 hours ]

[ Total Marks : 80

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**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 six types of Lathes.
2. Write three differences between turret lathe and capstan lathe.
3. State the working principle of lathe.
4. How is slotter differs from shaper?
- \* 5. Write the specifications of planner.
6. List the operations performed by a shaper.
7. What are the types of lubricants?
8. How does cutting fluid improve the tool life?
9. Write three differences between pressure welding and fusion welding.
10. State the principle of brazing.

**PART—B**

8×5=40

- 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 neat sketch of engine lathe, label the parts and write the function of its parts. 3+2+3

**( OR )**

(b) List out the work holding devices used in lathe. Write about two work holding devices with a neat sketch. 3+3+2

**12.** (a) Draw a neat sketch of slotter and explain its constructional details. 4+4

**( OR )**

(b) Describe crank and slotted lever mechanism of shaper with a neat sketch and explain its working. 4+4

**13.** (a) Describe the working of horizontal broaching machine with a neat sketch. 4+4

**( OR )**

(b) Describe the working of rotary continuous broaching machine with a neat sketch. 4+4

**14.** (a) What is the procedure for shielded metal arc welding? State its advantages and limitations. 4+2+2

**( OR )**

(b) Explain with a neat sketch the working principle of TIG welding. State its advantages. 3+3+2

**15.** (a) Explain how the following non destructive tests performed on welds. 4×2=8

- (i) Visual Inspection
- (ii) Magnetic particle test
- (iii) Radiography test
- (iv) Ultrasonic test

( OR )

- (b) Explain the principle of Ultrasonic welding with a neat sketch. State its advantages. 3+3+2

**PART—C**

10×1=10

**Instructions :** (1) Answer the following question.

(2) Each question carries **ten** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 16.** List out four methods of taper turning. Explain compound rest method with a neat sketch.

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