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C14–M–306

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2018

DME—THIRD SEMESTER EXAMINATION

PRODUCTION TECHNOLOGY—I

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. Write any six different types of lathe machines. ½×6=3

2. Mention the cutting tool signature. 3

3. Define the following terms with respect to the lathe : 1½×2=3

(a) Feed

(b) Depth of cut

4. State the working principle of shaper. 3

5. List any three different types of planers. 1×3=3

6. Briefly explain the working principle of slotter. 3

7. State the purpose of lubrication. 3

8. Write any three differences between pressure welding and fusion welding. 1×3=3

9. Briefly explain 'straight polarity' and 'reverse polarity' in arc welding. 1½×2=3

10. Mention any three types of non-destructive tests used in welds. 1×3=3

PART—B 10×5=50

Instructions : (1) Answer *any* **five** questions.

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

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Write short notes on the following lathe parts : 4+3+3=10

(a) Bed

(b) Tail stock

(c) 3-jaw chuck

12. Describe the working principle of Swiss-type automatic screw machine with line diagram. 5+5=10

13. Draw the line diagram of slotter and explain its main parts on it. 5+5=10

14. Explain with neat sketch, open- and cross-belt drive mechanisms in planer. 5+5=10

15. *(a)* Classify various types of broaching machines. 5

(b) Draw a neat sketch of horizontal broaching machine and label its parts. 5

16. Explain the methods of application cutting fluids. 10

17. Write short notes on the following welding techniques : 5+5=10

(a) Leftward welding

(b) Rightward welding

18. With a neat diagram, explain the procedure of submerged arc welding and state any two advantages. 4+4+2=10

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