

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

**December, 2019**

00541

**BME-051 : MANUFACTURING PROCESSES - I**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** *Question no. 1 is compulsory. Attempt any four questions from the remaining questions. All questions carry equal marks.*

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1. Choose the correct alternative and write it in your answer book.  $7 \times 2 = 14$
- (a) Which of the following processes uses a 'tap' for threading operation ?
- (i) External threading
  - (ii) Internal threading
  - (iii) Reaming
  - (iv) Drilling
- (b) Identify the process which uses wheel type multipoint cutting tool.
- (i) Turning
  - (ii) Grinding
  - (iii) Boring
  - (iv) Shaping

- (c) The accuracy in grinding operation is about
- (i)  $\pm 0.025$
  - (ii)  $\pm 0.0025$
  - (iii)  $\pm 0.010$
  - (iv)  $\pm 0.0010$
- (d) In a shaper tool, the front clearance angle for cast iron and steel is
- (i)  $1^\circ$
  - (ii)  $2^\circ$
  - (iii)  $3^\circ$
  - (iv)  $4^\circ$
- (e) Internal and external grooves are cut conveniently using
- (i) Shaping
  - (ii) Milling
  - (iii) Slotting
  - (iv) Grinding
- (f) Arbor is used on the following machine as an extension of machine spindle :
- (i) Lathe machine
  - (ii) Drilling machine
  - (iii) Milling machine
  - (iv) Grinding machine

- (g) Green sand is a mixture of silica sand with
- (i) 5 – 10% clay
  - (ii) 10 – 15% clay
  - (iii) 18 – 30% clay
  - (iv) 35 – 45% clay
2. (a) Sketch and explain briefly about the Lathe Machine. 7
- (b) Explain Taper turning by combining feeds. Also explain Eccentric turning. 7
3. (a) List down the different operations performed on a Drilling Machine and explain any three operations. 7
- (b) Briefly explain different types of Twist drills with neat sketches. 7
4. (a) How do you classify Boring Machines ? Explain any one with neat sketch. 7
- (b) Briefly explain different Boring operations with neat diagrams. 7
5. (a) What are the different shaper operations ? Explain any three of them. 7
- (b) Draw neat diagram of a slotting machine and briefly explain its parts. 7

6. (a) Explain different planer tools with neat diagrams. 7
- (b) Discuss three milling operations with neat sketches. 7
7. Write short notes on any *two* of the following :  $2 \times 7 = 14$
- (a) Milling of Hexagonal Bolt
- (b) Seven types of Patterns with neat sketch
- (c) Properties of Moulding Sand
- (d) Zones in Cupola Furnace
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