

**Machining Processes**

P. Pages : 2

Time : Three Hours



**NKT/KS/17/7286**

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Due credit will be given to neatness and adequate dimensions.
  9. Assume suitable data whenever necessary.
  10. Diagrams and chemical equations should be given whenever necessary.
  11. Illustrate your answers whenever necessary with the help of neat sketches.
  12. Use of non programmable calculator is permitted.

1. a) Explain Geometry of single point cutting tool and importance of various angles of it with neat sketch. 7
- b) Explain Mechanics of chip formation with neat sketch. 6

**OR**

2. a) Explain different types of cutting tool materials. 7
- b) Describe various factors affecting tool life. 6
3. a) Explain the constructional features of simple lathe with neat sketch. 7
- b) Explain thread cutting operation performed on Lathe. 6

**OR**

4. a) Discuss different methods used for taper turning. Explain any one in detail. 7
- b) How are lathe classified? Describe in brief any two types of lathe. 6
5. a) Explain with neat sketch, Whitworth quick return mechanism. 7
- b) Compare shaper, planner & slotter. 7

**OR**

6. a) Draw a neat sketch of Hydraulic shaper and explain its major parts. 7
- b) What are the different work holding devices used on shaper? 7
7. a) Differentiate between upmilling and down milling. 7

b) Explain with neat sketch column and knee type milling machine.

6

**OR**

8. a) What do you mean by indexing? Discuss various methods of indexing.

7

b) With the help of suitable sketch, explain the geometry of plain milling cutter.

6

9. a) Explain working principle of centreless grinding and give various methods of feeding on it.

7

b) Explain Grit, Grade & Structure of a grinding wheel.

6

**OR**

10. a) What do you mean by superfinishing, buffing & honing? Explain with neat sketch.

7

b) Outline various factors that influences the selection of grinding wheel.

6

11. a) Draw a neat labelled sketch of radial drilling machine. Explain its various parts.

7

b) List and explain various operations performed on a drilling machine.

7

**OR**

12. a) Explain Drilling, Reaming and Boring operation. How do they differ from each other?

7

b) Classify and list boring machines? Explain Jig boring machine with neat sketch.

7

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