

B.E.Eighth Semester (Mechanical Engineering) (C.B.S.)
Elective - III : Advanced Manufacturing Techniques

P. Pages : 2

Time : Three Hours



NKT/KS/17/7588

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. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the need classification & historical development of non traditional machining process. **7**
b) Differentiate between hot & cold machinery stating application of both. **6**
2. a) Explain the Economics and application of non traditional process for machining. **7**
b) Explain high speed grinders & Abrasive belt grinding with application. **6**
3. a) Explain the factors which control material removal rate in Abrasive Jet machining process. **7**
b) Explain the principle of ultrasonic machining with neat sketch. **6**
4. a) What is water Jet machining process. Explain with neat sketch along with application. **7**
b) Explain the process parameters & control of ultrasonic machining. **6**
5. a) Explain with neat sketch Electro-chemical machining. Also state its advantages and limitations. **7**
b) Explain with neat sketch plasma arc machining process along with advantages and limitations. **7**
6. a) Explain with neat sketch Electro discharge machining process along with its applications. **7**
b) Explain the working of laser beam machining with neat sketch. Also states its advantages & limitations. **7**
7. a) Explain Atomic Hydrogen welding process with its application. **7**
b) Explain plasma arc welding with neat sketch. Also state its merits, demerits and application. **6**
8. a) Explain principle, Advantages and disadvantages of Electron beam welding process with neat sketch. **6**
b) Explain with neat sketch submerged arc welding process. **7**

9. a) Discuss the economics and application of Non-Traditional process for welding. Also enumerate recent developments in same. 7
- b) Explain with neat sketch ultrasonic welding process. 6
10. a) Explain friction welding with neat sketch. State its merits & demerits. 6
- b) Explain the process of thermit welding along its applications and advantages. 7
11. a) Explain with neat sketch metal mould casting. Also state limitations of the process. 7
- b) Explain with neat sketch squeeze casting along with its advantages and limitations. 7
12. Write short notes on **any three**. 14
- a) Continuous casting.
- b) Vacuum mould casting.
- c) Ceramic shell casting.
- d) Evaporative pattern casting.
