Code No. 11578 / CBCS

FACULTY OF ENGINEERING

B.E VI – Semester (CBCS) (Mech.)(Main) Examination, May / June 2019

Subject: Modern Machining & Forming Methods - (Elective – I)

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions from Part A & any five questions from Part B.

PART – A (10 X 2 = 20 Marks)

1. What are the functions of liquid medium in slurry used in USM?
2. Write at least two advantages and two limitations of AJM.
3. Mention the desired properties of dielectric medium used in EDM.
4. What are the advantages of hot machining?
5. What are various sources of laser?
6. State the advantages of electron beam machining process.
7. Explain the principle of Rubber pad forming.
8. What is the effect of standoff distance in explosive forming?
9. Differentiate between compression and radial draw forming.
10. Sketch the principle of water hammer forming.

PART – B (5 x10 = 50 Marks)

11. a) How unconventional forming methods have been classified?
    b) Explain the effect of the following process parameters on material removal rate and surface finish in USM.
    i) Amplitude and frequency of vibration
    ii) Abrasive grit size and
    iii) Static load

12. a) What are the functions of electrolyte? What are the factors need to be considered while selecting it?
    b) Explain the principle and working of wire EDM process with a neat sketch.

13. a) Explain the principle and working of laser beam machining. Give limitations and applications.
    b) Explain what is meant by transferred and non-transferred mode of plasma arc. What are the advantages of each process?

14. a) What do you understand by 'HERF'? Write the advantages and applications of HERF.
    b) Explain with a neat sketch the principle and working of hydro forming process. List its advantages and applications.

15. a) Differentiate between stretch draw forming and rotary stretch forming.
    b) Explain the methods of tube spinning technique.

16. a) Describe with the help of a neat sketch, the constructional features of an electron gun used in EBM process
    b) Explain the principle of electro-hydraulic forming with a simple sketch. How does it differ from explosive forming?

17. Write short notes on:
    i) Types of transducers used in USM
    ii) High speed machining
    iii) Water hammer forming

****

OU - 2451 OU - 2451

http://www.osmaniaonline.com