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**Fifth semester B.E. Degree Examination, Model Question Paper - 2**

**Non Traditional Machining**

**Time: 3 hrs.**

**Max. Marks: 80**

**Note: Answer any FIVE full questions, choosing one full question from each module.**

**Module-1**

1. (a) What are the basic factors upon which the Non –Traditional machining processes are classified. Explain. (8 Marks)
- (b) Make a comparison between Traditional and Non –Traditional machining process in terms of advantages, limitations and applications. (8 Marks)

**OR**

2. (a) Discuss the process economy of any four Non –Traditional machining process and compare with Conventional machining process. (8Marks)
- (b) Discuss how the Non –Traditional machining process are selected based on material used or material application. (8 Marks)

**Module-2**

3. (a) Explain with neat sketch various tool feed mechanisms used in Ultrasonic machining process. (8 Marks)
- (b) Sketch and explain, the working principle of Ultrasonic machining process and also mention its advantages. (8 Marks)

**OR**

4. (a) What are advantages, limitations and applications of AJM process? (6 Marks)
- (b) What are process variables that effect the performance of water jet machining process? (5 Marks)
- (c) With the help of neat sketch explain Water Jet Machining process. (5 Marks)

**Module-3**

5. (a) Sketch and explain electro chemical honing process. (8 Marks)
- (b) Discuss different process parameters of electro chemical machining process. (8 Marks)

**OR**

6. (a) Explain the different types of Maskants and Etchants used in chemical machining process. (6 Marks)
- (b) Explain chemical blanking process with the flow chart. (5 Marks)
- (c) List the advantages, limitations and applications of chemical machining process. (5 Marks)

**Module-4**

7. (a) Explain the functions and characteristics of dielectric fluid used in EDM process. (6 Marks)
- (b) Explain the mechanism of metal removal in EDM process. (5 Marks)
- (c) Sketch and explain four types of flushing methods used in EDM process. (5 Marks)

**OR**

8. (a) Explain non-thermal generation of plasma with suitable diagram. (8 Marks)
- (b) Explain process parameters and process characteristics of PAM process. (8 Marks)

## **Module-5**

9. (a) Sketch and explain mechanism of metal removal in Laser beam machining process. (6 Marks)  
(b) Discuss various types of lasers used in LBM process. (6 Marks)  
(c) Discuss the process characteristics of LBM. (4 Marks)

**OR**

10. (a) Sketch and explain the generation and control of electron beam used in EBM process. (8 Marks)  
(b) List the advantages and limitations and applications of EBM process. (8 Marks)