Q.26 Discuss electro-magnetic forming process.
Q.27 What are the limitations of conventional machining processes?
Q.28 Explain abrasive flow machining process.
Q.29 What is the difference between EBM and IBM?
Q.30 Discuss the future possibilities of unconventional machining processes.
Q.31 What are the applications of explosive welding process?
Q.32 Discuss abrasive jet machining process and its relative drawbacks.
Q.33 Explain plasma arc welding process.
Q.34 Discuss chemical machining and its drawbacks.
Q.35 Explain metalizing.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x10=20)

Q.36 Explain the complete procedure of Photo-Lithographic for electronic device manufacturing.
Q.37 What are the Process parameters affecting the MRR is AJM? What are the disadvantages of using abrasives again and again? What are the different types of nozzles heads used in AJM/ Why oxygen should not be used in AJM?
Q.38 Explain the basic mechanism of material removal in EDM. Draw schematically the EBM equipment. List three applications of EBM.

No. of Printed Pages : 4
Roll No.....

202432

3rd Sem./ Mechatronics
Sub : Non conventional manufacturing process

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (10x1=10)

Q.1 ECM process is based on which of the following laws?
a) Coulomb's law
b) Faraday's law
c) Law of definite proportions
d) Law of chemical combination

Q.2 Electron beam machining is carried out in _____.
a) High pressure vessel
b) Thermally insulated area
c) Vacuum
d) In a room at atmospheric pressure

Q.3 In laser beam machine, one end of the glass is _____.
a) open
b) blocked with a 10% reflective mirror
c) blocked with a 75% reflective mirror
d) blocked with a 100% effective mirror

Q.4 Material removal take place in AJM due to
a) Electrochemical action
b) Mechanical impact
c) Fatigue failure of the material
d) Sparking on impact

Q.5 Typical applications of ultrasonic machining.
a) Holes as small as 0.1 mm can be drilled
b) Holes as small as 1.0 mm can be drilled
c) Holes as small as 5.0 mm can be drilled
d) Holes as small as 0.5 mm can be drilled

Q.6 Which is not an advantage of USM
a) Noiseless operation,
b) Metal removal cost is law
c) High accuracy and Good surface finish
d) Cheap

Q.7 For inducting ultrasonic vibrations by converting electrical energy into mechanical vibrations, the _____ is used.
a) Ammeter b) Voltmeter
c) Plezoelectric crystals d) Frequency crystal

Q.8 What factor affect the material removal rate in AJM process?
a) Abrasive grain size b) Mixing ratio
c) Nozzle top clearance d) All of the above

Q.9 what is not the desirable properties of carrier gas in AJM?
a) It should be cheap
b) non toxic

c) easily available
d) Should not dry quickly

Q.10 Which types of tool materials quality is not desirable for USM?
a) Tough b) Ductile
c) Hard d) None of the above

Section-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Name any one conventional machining process.

Q.12 What is the need of unconventional machining process?

Q.13 Where is the application of abrasive jet machining?

Q.14 Expand IBM.

Q.15 Give application of explosive welding.

Q.16 Define plasma.

Q.17 What is water hammer?

Q.18 What is horn in Ultr-sonic machining?

Q.19 How electron beam is generated in EBM?

Q.20 Name any two abrasives.

Section-C

Note: Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)

Q.21 Classify Unconventional machining processes.

Q.22 Give the process parameters of EDM.

Q.23 Explain the working principle of ECM..

Q.24 Discuss the working of Ultra sonic machining process.

Q.25 Explain the cladding process.