Model Question Paper
Fifth semester B.Tech. Degree examinations
13.505   Machine tools II (P)

Time: Three Houres   **Maximum:100Marks**
Draw neat sketches wherever necessary
Part A
Answer all questions

1) List the advantages of broaching process.
2) Distinguish between EDM and ECM?
3) What is the function of sintering in PM process?
4) List the common materials used for machine tools ?
5) Explain powder compacting in PM.
6) List down the advantages of hydraulic power transmission system?
7) What are the basic characteristics of vibration isolated tool holders?
8) Explain the functions performed by the foundation of a machine tool.
9) How the unconventional methods of machining are classified?
10)   List the factors considered for the design of machine tool structures.   (*10X2=20 Marks*)

Part B

11)
a) Illustrate different broaching tools and their applications   (*10Marks*)
b) Classify broaching machines w.r.t. configuration and use.   (*10Marks*)
Or

12)   Describe the different methods of manufacturing various types of gears
    i.   Preforming
    ii.   Producing gear teeth by machining
    iii.   Finishing gear teeth   (*20Marks*)

13)
a) Compare L.B.M. with E.B.M.
b) Explain the applications and characteristics of C.H.M.   (*20Marks*)
Or

14)
Illustrate following transfer mechanisms in detail.
    i.   Working of Inline transfer machines

      ii.   **Pawl type transfer mechanism** (*20Marks*)

15)

a) Give an account on various sourses of vibration and their effects in machine tools.

b) Compare the electrical and mechanical drives used in machine tools

(*20Marks*)

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Or

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16)

  With sketches, explain:-

      iii.   **Working of hydraulic copying syatem**

      iv.   **Types of Valves used in hydraulic circuits** (*20Marks*)

17)

a) Explain in detail, mechanical, thermal and thermo mechanical compacting.

b) Describe three methods of producing metal powders. (*20Marks*)

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Or

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18)

a) How do you manufacture the following powder metallurgy components?

    a. Porous bearings

    b. Electrical contact materials (*10Marks*)

b) Describe, honing process with neat sketches. (*10Marks*)