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B.E/B.Tech DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011

MATERIAL SCIENCE AND ENGINEERING BRANCH

THIRD SEMESTER

ML9201- FOUNDRY AND MACHINING

(REGULATIONS 2008)

Answer All Questions

**PART-A (10X2=20 MARKS)**

1. What are the normal binders used in core sand?
2. Differentiate between a blow hole and pin hole porosity.
3. Mention the advantages of induction furnace.
4. What do you mean by Stuccoing?
5. When will the negative rake angles be used?
6. List the factors that affect Tool life.
7. Compare between orthogonal cutting and oblique cutting.
8. How does a reamer tool differ from a drilling tool?
9. How will you specify a Planer?
10. What are the advantages of Gear hobbing?

**PART -B (5X16)=80 MARKS**

11. With the help of a neat diagram explain the working of the crank and slotted link quick return motion mechanism used in shaper.
- 12 a. Why sand testing is important? Describe briefly the essential tests required to evaluate moulding sands for steel castings.

(OR)

- 12 b. Explain in detail the various allowances provided on the pattern.

13 a. Differentiate between true centrifugal casting process and semi centrifugal casting process. Explain with sketches how very large gray iron pipes are cast using centrifugal casting processes.

(OR)

13 b. Explain with sketches how hollow sections are produced using the continuous casting processes? What are the salient advantages of continuous casting?

14 a. Using Merchant's circle diagram derive the expression for estimating the cutting force during machining. Mention the assumptions made.

(OR)

14 b. Describe the forms of wears on the cutting tool with neat sketches.

15 a. Explain the Apron Mechanism used in a lathe with the help of a neat diagram.

(OR)

15 b. Sketch and describe the basic types of milling cutters and milling operations.