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Code No: ME1516

GEC-R14

II B. Tech II Semester Regular Examinations, April 2017

MANUFACTURING PROCESSES
(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 60

Note: All Questions from **PART-A** are to be answered at one place.

Answer any **FOUR** questions from **PART-B**. All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. a) Ideal shape of the riser is
i) Sphere ii) Cylinder iii) Cube iv) Ellipsoid
b) Ability of the moulding sand to allow the gases to escape from the mould is known as _____
2. Distinguish between a chill and chaplet.
3. What is the need of flux in welding process?
4. a) In _____ process, the heat required for welding is generated through friction at the interface of the two components being joined.
b) _____ is an arc welding process that uses a non-consumable tungsten electrode to produce the weld.
5. Write the equation for maximum draft one can achieve in a single pass?
Explain the terms in the equation.
6. Distinguish between compound die and progressive die.

PART-B

4 × 12 = 48M

1. a) Briefly explain the steps involved in making a casting. (4M)
b) With the help of sketches explain four pattern making allowances. (8M)
2. a) What do you mean by gating ratio? Distinguish between pressurized gating system and non-pressurized gating system (4M)
b) Draw the cross section of a cupola and indicate various zones in it. Describe the process of obtaining cast iron using cupola. (8M)
3. a) Differentiate between oxy acetylene cutting and plasma arc cutting. (6M)
b) Differentiate between spot welding and projection welding. (6M)

4. a) Explain how soldering is carried out? What types of joints are used in soldering? (6M)
- b) Explain the Metal Inert Gas welding process with a neat sketch. (6M)
5. a) Distinguish between blanking and piercing with simple sketches. (6M)
- b) Compare bending and drawing operations related to sheet metal work with sketches. (6M)
6. a) Illustrate with a neat diagram rotary swaging process. (5M)
- b) With the help of sketches explain the forging process to manufacture connecting rod. (7M)
