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Roll No.

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B.Tech. (IE) (Sem.-3rd) (2008/2009 Batch)

B.Tech. (ME)

Subject Code : PE-209

MANUFACTURING PROCESS-I

Paper ID : [A0806]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Write briefly :

- (a) What is the difference between removable pattern sand mould casting process and disposable pattern sand mould casting process?
- (b) What is the function of choke in sand casting?
- (c) What are the types of cores used in sand mould casting?
- (d) Define the term homogenous nucleation.
- (e) Name and differentiate between two types of risers used in sand mould casting.
- (f) Define the oxy hydrogen welding process.
- (g) What is the difference between flash and upset welding ?
- (h) What is flame cutting? Write an application of flame cutting?
- (i) Differentiate between brazing and soldering.
- (j) Name the shielding gases used in inert gas arc welding.

SECTION-B

2. With the help of a diagram, explain the process of preparing a sand mould by the hand moulding method.
3. Describe the various types of pattern materials and pattern allowances in sand casting process.
4. What is shell mould casting process? Write the advantages and product applications of shell mould casting process.
5. What is oxyacetylene welding? Write on the gas welding equipment.
6. Explain the working of a thermit welding process, with the help of sketch.

SECTION-C

7. Describe the different methods of cleaning and finishing of castings. How soundness of casting is tested?
8. (a) What are the different types of electrodes used in arc welding. Explain the purpose of coating on an arc welding electrode.
(b) Explain the friction welding process with the help of sketch.
9. Write note on the following :
 - (a) Electron beam welding.
 - (b) Directional solidification.