

**FACULTY OF ENGINEERING**  
**B.E. 3/4 (Production) II Semester (Suppl.) Examination, January 2012**  
**METAL CASTING AND WELDING**

Time: 3 Hours]

[Max. Marks: 75

**Note :** Answer *all* questions of Part A.  
Answer *five* questions from Part B.

**PART – A**

**(25 Marks)**

1. Sketch the cross-section of a sand mould and label the diagram.
2. What are the distinguishing features between a casting and a pattern ?
3. What is meant by skin dried mould ?
4. What are the normal binders used in core sand ?
5. State the principle of centrifugal casting.
6. Give the classification of welding processes.
7. How is an Arc obtained in Arc welding ?
8. How is brazing different from welding ?
9. Explain the characteristics of constant current curve welding machine.
10. Write a brief note on explosive welding.

**PART – B**

**(5×10=50 Marks)**

11. a) What are the principal ingredients of moulding sand ? How they are specified ? 5  
b) Explain various types of machine moulding methods. 5
12. a) Explain various types of allowances given to the pattern. 5  
b) Explain the working principle of induction furnace. 5
13. a) With help of neat sketch explain investment casting. 5  
b) Describe various casting defects. 5



- 14. a) Sketch and explain laser beam welding. 5
- b) Explain the process of resistance welding. 5
- 15. a) Describe friction welding process ? Give its applications. 5
- b) Describe the process of SMAN. State its advantages and limitations. 5
- 16. a) Write short notes on :
  - i) cruciform test
  - ii) ring weldability test. 5
- b) Explain blow moulding process and state its applications and limitations. 5
- 17. Write short notes on : 10
  - a) Inspection and testing of casting
  - b) Ultrasonic welding process
  - c) Thermo setting plasters.