

**B.E. MECHANICAL ENGG. 2<sup>nd</sup> Year, 2<sup>nd</sup> Semester Exam 2023**

**MANUFACTURING PROCESS**

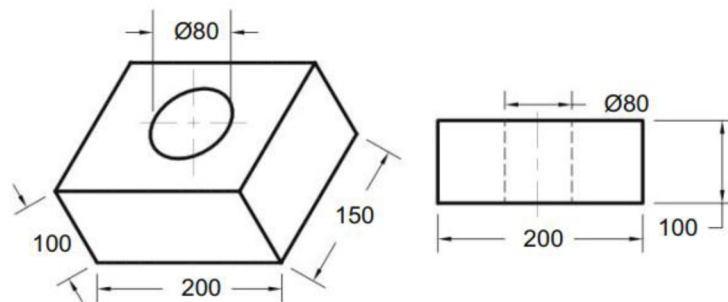
Time : Three hours

Full Marks : 100

Answer of part of a question should be written in one place.  
 Draw suitable diagram wherever required. (Preferably by pencil.)

*The figures in the margin indicate full marks.  
 Answer **any 05 (five)** questions of the following.*

1. a) Discuss briefly the influence of water-content on moulding sand properties. [4]
- b) What is “Stop-off”? Explain briefly. [2]
- c) What is “Stack moulding”? [2]
- d) What is “System sand”? [2]
- e) The casting shown in Fig. (shown below) is to be made in plain carbon steel using a wooden pattern. Assuming only shrinkage allowance, calculate the dimensions of the pattern.



Assuming only shrinkage allowance, calculate the dimensions of the pattern of plain carbon steel. (For steel the shrinkage allowance is 21.0 mm/m. and for aluminium the shrinkage allowance is 13.0 mm/m.)

For the same example as shown in Fig. 3.3(a), if the master pattern is to be made of aluminium then calculate the dimensions of the wooden pattern which is to be used for making the aluminium pattern. (Sketch the diagram) [10]

