

Q.P. Code :22613

[Time: Three Hours]

[Marks:80]

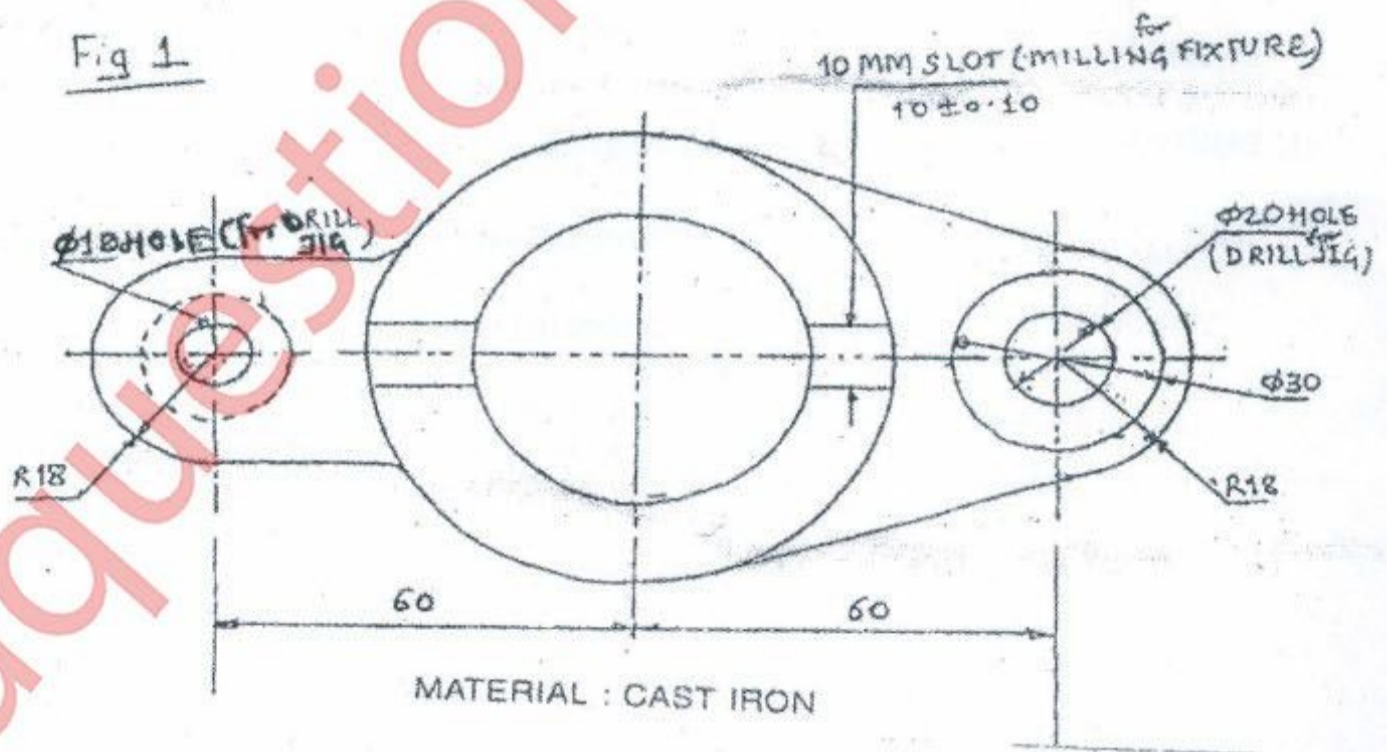
Please check whether you have got the right question paper.

- N.B:
1. Question no.1 is compulsory.
 2. Attempt any three questions from the remaining six questions.
 3. Give your answers with neat sketches.
 4. Assume suitable additional data if required.

Q.1 Design and draw a drill Jig. To drill a two holes of diagram 10mm for the given fig. draw minimum two views of Jig and indicate important dimensions.



Fig 1



- Q.2 a) What is the method of "dual cylinder location"? Explain with reference to dimensions decided for diamond pin while using a pair of sound pin and diamond pin. 10
- b) Determine the errors when "v" block is used as
 i) Centralizer 10
 ii) As side and base locator
- Q.3 a) What is Jamming? Discuss different methods of preventing Jamming with neat sketches? 10
- b) Draw a sketch of indexing Jig? How it may differ constructionally from indexing fixtures? 10
- Q.4 a) What do you understand by "fool proofing"? When it is required? Explain with suitable examples methods of fool proofing? 10
- b) Explain in detail:
 a) Box drill Jig 10
 b) Principles of clamping
- Q.5 a) Draw freehand sketches (any three) 12
 i) Jig bush with head
 ii) Renewable bush
 iii) 3-2-1 principle of location depicting case of a rectangle plate as a work piece
 iv) Plate Jig.
- b) Explain nesting method of location with neat sketch. 05
- c) Explain slip bush and renewable bush 03
- Q.6 a) Explain the benefits and limitations of Jigs and fixtures? 10
- b) Explain purpose of Ejectors in Jigs and fixtures and explain any one type of Ejector. 05
- c) Why use of standard elements is recommended in Jigs and fixtures? Explain. 05

