Menoufia University Faculty of Engineering Shebin El-Kom Academic Year 2016 – 2017

Marks: 100



Dept. Year

Year Subject/code Time allowed

: Prod Engg. & Meeh. Design

: Diploma program (500) : Jigs and fixtures/PRE 510

: 3 hours

Date : 10/6/2017

# Answer all the following questions (with the help of sketches):

## Question: 1

(25 marks)

- Distinguish between Jigs and fixtures.
- Name some materials commonly used in jigs and fixtures.
- Discuss the advantages of jigs and fixtures
- Mention and sketch the different applications of turning fixtures.
- Mention the advantages and disadvantages of conical locators
- Discuss the causes of errors in the design and operation of jigs and fixtures.
- Writes short notes on broaching fixture.
- What are the welding fixtures? state the general purpose of welding fixtures.

### Question: 2

(25 marks)

 Design and sketch a suitable jig to make four equi-spaced radial through holes in a ring as shown in Fig. 1. (assuming that this is the last operation to be performed)

## Question: 3

(25 marks)

• Design and sketch a drill jig to drill the hole in the component shown in Fig. 2.

#### Question: 4

(25 marks)

Design and sketch a milling fixture to make a slot as shown in Fig.3.

