Menoufia University Faculty of Engineering, Shebin El-kom **Production Engineering and Mechanical Design Department**

First Semester Exam., 2017-2018

Date of Exam: 6 / 1 / 2018



Subject: Jigs and fixtures

Code: PRE510 **Diploma Courses** Year: 2017-2018 Time Allowed: 3 Hours Total Marks: 100 Marks

Answer the following questions

Question: 1

- a) Distinguished between Jigs and fixtures
- b) What are the welding fixture? State the general purpose of a welding fixture
- c) Explain briefly the various types of errors accounted for in Jigs and fixtures design.
- d) Name any three materials commonly used in Jigs and fixtures
- e) Discuss the advantages of Jigs and fixtures

Question: 2

- a) Design and sketch a drill Jig to drill the 10 mm hole in the component shown in Fig. 1, assuming that this is the last operation to be performed
- b) Discuss the location and claming method employed in your in Fig. 1
- c) Design and draw at least two views of milling fixture for making a slot of 8 mm wide X 15 mm deep as shown in Fig. 2.
- d) Mention the different turning fixtures and their applications.
- e) Figure 3 represents a spherical part, design a suitable Jig and fixture to make a hole of a diameter equals 10 mm as shown in the Fig. 3.



