• Answer all the following questions	• Duration: **3** Hours (for the two pages)
• Illustrate your answers with sketches when necessary	• No of questions in the first page: **3**
• Assume any missing data	• Total Marks: **70** Marks (for the two pages)

1. A. Define each of the following:
   iii. Gypsum.   ii. Sand.   i. crashed stones
   vi. Engineering Geology   v. Plate tectonics

1. B. Compare between each pair of the following:
   i.   Outer core and inner core.   iii. Plutonic and Volcanic Igneous rocks.
   ii. Crust and Mantle.   iv. Clastic and Chemical sedimentary rocks.

1. C. Show how to differentiate between each pair of the following:
   i.   Hematite and Magnetite.   iii. Calcite and quartz.
   ii. Unconfined and confined Aquifers.   iv. Calcite and dolomite

(10 marks)

2. A. Describe any four of the following minerals:
   i. Conglomerate.   ii. Gabbro.   iii. Granite.
   iv. Magnetite   v. Slate   vi. Gneiss.

2. B. What is the economic importance of the following?
   i. Diamond.   ii. Coal.   iii. Iron.

2. C. Describe the Richter scale of measuring earthquakes?

3. A. Describe any four of the following rocks with their economic uses: **(10 marks)**
       iii. Gneiss   ii. Basalt   i. Limestone
       vi. Shale   v. Sandstone

3. B. i. Compare between arch dam and gravity dam.
       ii. Discuss Sources of contamination in groundwater.

3. C. i. Show why study of metamorphic rooks is difficult.
   ii. Discuss selection of dam site

(20 marks)

4. Solve the given geologic map.

(30 marks)

Good Luck

Benha University
Faculty of Engineering at Shoubra
Surveying Engineering Department
Academic Year: 2017/2018
Semester: Two

First Year Surveying
Final Exam
Engineering Geology
Course Code: SUR124
Date: 28 – 05 – 2018

• Answer all the following questions	• Duration: 3 Hours (for the two pages)
• Illustrate your answers with sketches when necessary	• No of questions in the first page: 3
• Assume any missing data	• Total Marks: 70 Marks (for the two pages)
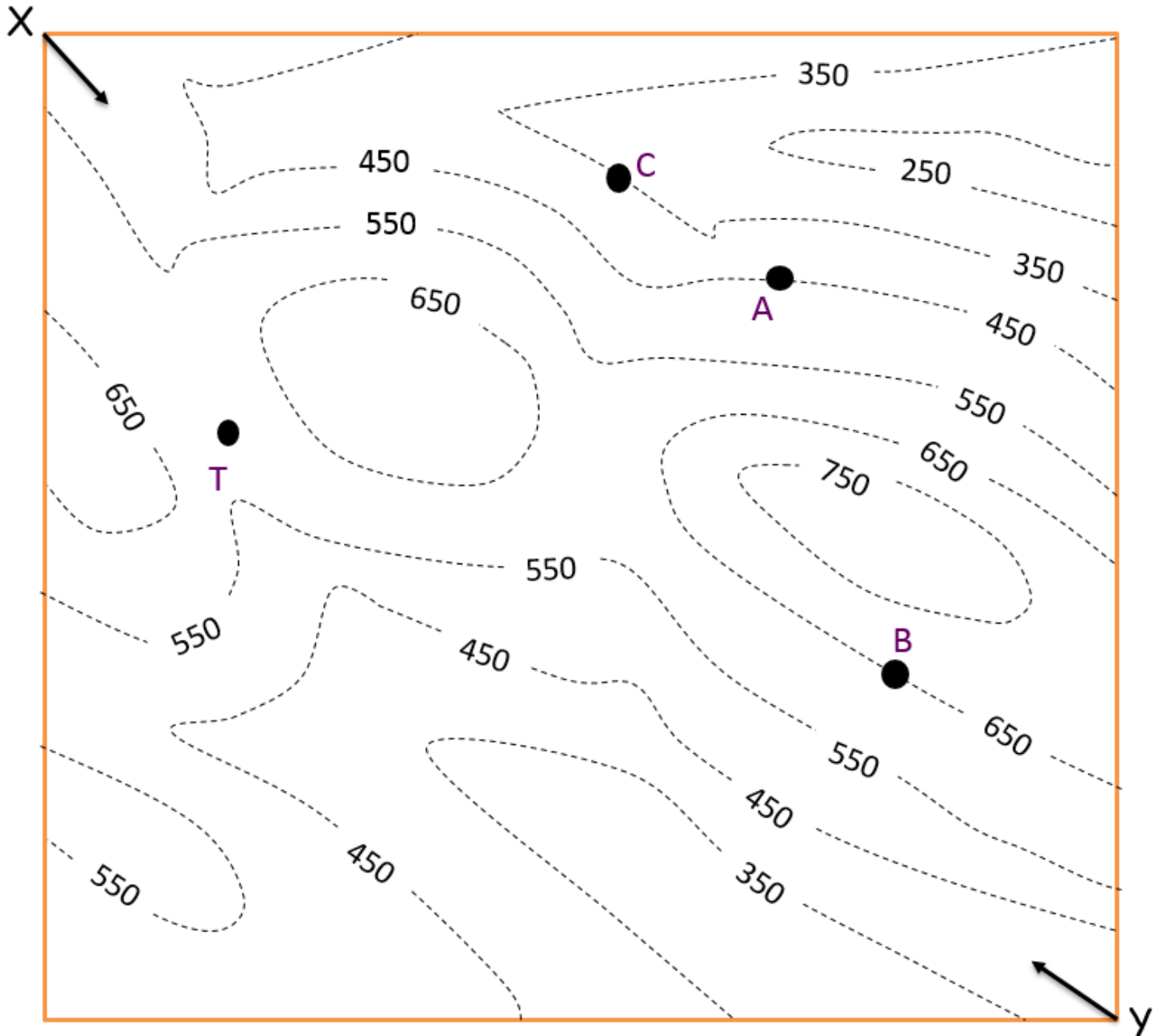
Scale 1: 10 000   **Contour in meters**

A coal seam is met within bore-holes A, B and C at a depth of 150 m in each. The seam is overlain by a sandstone bed of 200 m thickness and underlain by a limestone bed of 100 m thickness. It is required

1. To plot the outcrops of these beds.
2. To determine the amount and direction of dip.
3. To determine the depth of the coal seam at bore-hole "T".
4. Draw the profile section along the line X-Y.