

University of Al-Qadisyah

Faculty of Biotechnology

Dept. of Agricultural Biotechnology

Final exam of second semester 2016-



Subject: Tissue culture

Time: Two hours

Stage: 3<sup>rd</sup> year

2017/12

Notice; Answer 4 of the following questions.2

**Q.1. Fill the following sentences with the correct missing words? (10 Marks)**

- 1-Two types of membrane filters are ..... and .....
- 2- ..... will help the world to meet the human demands for food, energy, medicine, shelter, clothing, and a cleaner environment.
- 3- ..... technology is being used to produce plants capable of hyper accumulating toxic metals from soil and water, thus contributing to a cleaner environment
- 4- Increases in plant production are needed to meet growing ..... for food.
- 5- ..... offers significant advantages over traditional plant breeding in developing improved crops.

**Q2. Answer for each question by choose in either the True (T) or the False (F) after read carefully of the following sentences; (10 Marks)**

- 1-Heat disinfection removes all non-sporing bacteria .
- 2-Strong Chemical Disinfectants is formalin.
- 3- Autoclave glassware & instruments at 121°F for 1 hr.
- 4- Metal instruments in oven at 140-160°F for 2 hrs.
- 5-Filter sterilization with membranes of 0.45-0.22 μM porosity.

**Q3.**

- A. What are the mechanism of Somaclonal Variations? (5 Marks)
- B . What are the Miscellaneous Items for tissue culture? (5 Marks)