

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI  
DEPARTMENT OF BIOTECHNOLOGY

2018/2019 HARMATTAN SEMESTER EXAMINATION  
Course: Cell and Tissue culture (BTC 403)

Instructions: Attempt five questions, AT LEAST ONE FROM EACH SECTION. (3hrs)

SECTION A:

1(a). Describe serum as a type of natural media (6mks). (b). Discuss briefly how contaminants in a tissue culture can be dealt with (6mks).

2. Describe the following techniques involved in the cultivation of cells (3mks each):

i). Preparation and sterilization of medium. ii) Preparation and sterilization of substrate. iii) Isolation of explant. iv) Disaggregation of explant.

3(a). Explain possible contents of a typical cell culture (3mks). (b). Define suspension culture and state the five types (5mks). (c). Mention the five approaches used in organ culture technique (4mks).  
*watch glass, raft method*

SECTION B:

4. Mention types of culture media in a medical microbiology and parasitology laboratory. Discuss any one of them (12mks).

5. How would you set up a medical microbiology laboratory? (12mks)

SECTION C: 6(a). What are the processes involved in protein synthesis? Give detailed explanation of each (6mks). (b). Explain the processes involved in Mitosis. (6 marks).

7(a). Mention the four main types of tissues present in human and at least two functions of each of them (5mks). (b). List the stages involved in the preparation of histological slides and five histological stains that can be used (4mks). (c). List the three types of muscle tissue and state where each can be found (3mks).