CBCS SCHEME

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18BT743

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022
Tissue Engineering

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Give an account of the scope and importance of Tissue Engineering. **(06 Marks)**
b. Viability assays are performed to determine Morphology of tissue - Explain. **(08 Marks)**
c. How is Cell number determine in Tissue Engineering? **(06 Marks)**

OR

2 a. With examples, explain how cells are used as Therapeutic agents. **(10 Marks)**
b. State few characteristics of invitro tissue that could be used in therapies. **(10 Marks)**

Module-2

3 a. State applications of growth factors and explain any 1 of the growth factor in detail. **(10 Marks)**
b. Explain the sequence of wound healing process. **(10 Marks)**

OR

4 a. With neat labeled diagrams, explain the types of tissue and its architecture. **(10 Marks)**
b. Enumerate the types of cell – cell interactions. **(10 Marks)**

Module-3

5 a. Biopolymers can be used in producing Biomaterials - Justify. **(10 Marks)**
b. Explain the role of Nanotechnology to produce Biomaterials. **(10 Marks)**

OR

6 a. Discuss the properties of Biomaterials. **(10 Marks)**
b. State few applications of Biomaterials. **(10 Marks)**

Module-4

7 a. Describe Steam cells and its types. **(10 Marks)**
b. Explain Fluorescence activated cell sorting. **(10 Marks)**

OR

8 a. Stem cells are used in Therapies. Justify. **(10 Marks)**
b. Discuss the applications of stem cell markers and cord blood cells. **(10 Marks)**

Module-5

9 a. Explain Invitro organogenesis. **(10 Marks)**
b. Discuss Patent protection and regulation of tissue – engineered products. **(10 Marks)**

OR

10 a. Discuss the use of stem cells in Neurodegenerative diseases. **(10 Marks)**
b. Explain ethical issues in Tissue Engineered products. **(05 Marks)**
c. Enumerate the process of preserving tissue models. **(05 Marks)**

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