Total No. of printed pages = 4

63/2 (SEM-3) BIT 302

2022

(Held in 2023)

BIOTECHNOLOGY

(Theory Paper)

Paper Code : BIT-302

(Animal Biotechnology)

Full Marks – 80

Pass Mark – 32

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answers from the following : 1×6=6

(a) Tissue culture flask are mostly seen under

(i) Upright Microscope

(ii) Inverted Microscope

(iii) Electron Microscope

(iv) Any Microscope

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(b) In order to perform subculturing of cells which of the following points should be followed ?

(i) Cells should be 70-80% confluent

(ii) Cells should be viable

(iii) Cells are at the log phase of their growth

(iv) All of the above

(c) When the tissue is brought from the source and cultured, it is called

(i) Primary Culture (ii) Passaging

(iii) Secondary Culture (iv) Cell Line

(d) Autoclave is a device to sterilize by

(i) Ionization Radiation

(ii) Moist Heat

(iii) Condensed Heat

(iv) Only Pressure

(e) Which one of the following is widely used as cryoprotectant during cryopreservation ?

(i) DMSO (ii) Trypsin

(iii) EDTA (iv) None of these

(f) mAb stands for

(i) Man and Biosphere

(ii) Monoclonal Antibody

(iii) Man made Antibody

(iv) None of the above.

2. What is tissue engineering and mention its advantage over conventional organ transplantation. 2

3. Distinguish between : 2×4=8

(a) Natural and Artificial cell culture media

(b) B Lymphocyte and Myeloma cells

(c) Totipotent and Pluripotent

(d) Basal Media and Serum based Media.

4. What is Subculturing of cell culture ? Describe the methods of subculturing for adherent and non-adherent cell culture. 1+4=5

5. Wrtite short notes on any *five* : 5×5=25

(a) Trypsinization

(b) Cryopreservation

(c) Therapeutic cloning

(d) Tissue Engineering

(e) Disinfection

(f) Contact Inhibition

(g) Artificial Organ

(h) Biosefety Cabinet.

6. Answer any *two* of the following questions : 10×2=20

(a) What are mAb ? How are they produced ? 2+8=10

(b) With a suitable example describe the procedure of Organ culturte. 10

(c) What is animal cell culture and its importance ? Write in detail on the primary and secondary cell culture along with various methods to obtain primary and secondary cell culture. 2+8=10

7. Answer any *one* of the following questions : 14×1=14

(a) What are cloning ? How cloning is performed ? How cloning is different from In-vitro fertilization ? 14

(b) Describe the various applications of animal cell culture. 14