QPC: RN19BTECH657

AR 19

Reg. No





GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester - Regular) Examinations, November - 2022

BOEBT7030 - Animal Biotechnology

(Biotechnology)

Time: 3 hrs Maximum: 70 Marks **Answer ALL Questions** The figures in the right hand margin indicate marks. **PART – A:** (Multiple Choice Questions) $(1 \times 10 = 10 \text{ Marks})$ Q.1. Answer **ALL** questions [CO#] [PO#] a. Animals that have had their DNA manipulated to possess and express an extra (foreign) CO₄ PO₁ gene are known as (i) transgenic animals (ii) animals (iii) infected animals (iv) Bt animals CO₁ PO₁ Optimum pH required for the growth of mammalian cells is (i) 5.3-7.0 (ii) 6.5 - 7.0(iii) 7.2 - 7.4(iv) 8.1-8.9 Which of the following is easy and rapid method to interpret viability of cells in culture CO2 PO₁ system Trypan blue dye exclusion (i) (ii) Neutral red assay (iii) Fluorescein dye assay (iv) All of the following d. Cell culture technique became simpler only after advent of CO₁ PO₁ **Antibiotics** (i) (ii) Cell culture media (iii) **Trypsin** (iv) All of the following CO₃ Transgenic animals have PO₁ (i) foreign protein (ii) foreign gene foreign amino acid (iii) foreign lipid (iv) f. Who is regarded as the father of tissue culture PO₁ CO₁ (i) Harrison Arnold (ii) (iii) Ross (iv) Roux HAT medium used for the selection of fused hybrid cells in hybridoma culture was PO₁ introduced by (i) Littlefield and Miller (ii) Kohler and Milstein (iii) Frish and Jentoft (iv) Eagle and Karl CO₁ PO₁ Disaggregating of cells can be achieved by physical disruption (i) (ii) enzymatic digestion (iii) treating with chelating agents (iv) all of the above Which of the following is the structural fibre in cell culture system CO₁ PO₁ (i) Collagen Elastin (ii) (iii) Fibronectin (iv) Both (i)and (ii) Sometimes cell lines can be cultured for such a long time that they apparently develop PO₁ the potential to be subcultured indefinitely in vitro. Such cells lines are called (i) established cell lines (ii) primary cell lines (iii) secondary cell lines (iv) propagated cell lines

| PART – B: (Short Answer Questions) | | 2 x 10 = | $2 \times 10 = 20 \text{ Marks}$ | | |
|---|---|----------|----------------------------------|----------|--|
| Q.2. | Answer ALL questions | | [CO#] | [PO#] | |
| | What do you mean by established cell line? | | CO1 | PO1 | |
| b. | What are the main constituents of culture for animal cell growth? | | CO1 | PO1 | |
| c. | Name two techniques used in animal cell transfection process? | | CO3 | PO1 | |
| | What is the effect of excess accumulation of metabolite products (lactate ammonium) on cells ? | and | CO2 | PO1 | |
| | What is the concentration of CO ₂ required for culturing animal cells? Write composition of BSS? | | CO1 | PO1 | |
| g. | Differentiate between transformed cell and non-transformed cell? | | CO2 | PO1 | |
| h. | Write the advantages of serum in media? | | CO1 | PO1 | |
| i. | What is the principle of southern blotting? | | CO4 | PO1 | |
| j. | Name few bacterial and viral diseases in animals? | | CO4 | PO1 | |
| PART – C: (Long Answer Questions) (10 x 4 = 40 Marks) | | | | | |
| Answ | ver ALL questions | Marks | [CO | #] [PO#] | |
| 3. a. | Discuss about the culture of cells for production of various biological? | 5 | CO2 | PO1 | |
| b | Write notes on scaling up the cell culture for large scale production? (OR) | 5 | CO2 | PO1 | |
| c. | | 5 | CO1 | PO1 | |
| d. | | 5 | CO2 | PO1 | |
| 4. a | | e 5 | CO1 | PO1 | |
| b | | 5 | CO3 | PO1 | |
| | (OR) | _ | CO2 | DO1 | |
| C. | | 5 | CO3 | PO1 | |
| d. | technology? | | CO4 | PO1 | |
| 5. a. | | 5 | CO3 | PO1 | |
| b. | Discuss about the development and maintenance of cell line? (OR) | 5 | CO3 | PO1 | |
| c. | How transgenic animals are useful for producing important | 5 | CO4 | PO1 | |
| | compounds required for pharmaceutical and therapeutic purposes? | | | | |
| d. | Write notes on cryopreservation techniques? | 5 | CO3 | PO1 | |
| 6. a | Write notes on behaviour of cells in culture, it's division and their growth pattern? | n 5 | CO2 | PO1 | |
| b | Write brief about the chemical, physical and metabolic functions of different constituents of culture medium? | t 5 | CO1 | PO1 | |
| (OR) | | | | | |
| c. | Discuss in detail about organ cultures ? | 5 | CO3 | PO1 | |
| d. | Discuss about the goal of future tissue engineering with its application? | 5 | CO3 | PO1 | |
| | End of Paper | | | | |