2022

HUMAN PHYSIOLOGY

[P.G.]

(M.Sc. Second Semester End Examination-2022)

PAPER- PHY202 (Theory)

Full Marks: 40 ***Time: 02 Hrs***

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

UNIT – 15 Marks 20

ADVANCE MICROBIAL STUDIES

Group A

Answer any two questions from the following: **2x2= 4**

1. Name two denitrifying bacteria. 2
2. Give two identifying characters of staphylococci. 2
3. Name two microbes industual importance. 2
4. What do you mean by bacteriostatic and bacteriocidal agents. 2

Group B

Answer any two questions from the following: **2x4 = 8**

5. Draw and explain the different phases of typical bacterial growth curve.

6. What is the physiological significance of the flora present in the respiratory tract? How is it relevant to infections caused by COVID 19? 2+2
7. Explain the downstream process of any industrial process mediated by microbes.
8. Name the causatives of the following diseases – 1+1+1+1
   i) Amebiosis
   ii) Trypanosomiasis
   iii) Leishmaniosis
   iv) Malaria. 4

Group C

Answer any one question of the following: **1x8 = 8**

9. Define antibiotics. Describe the role of microbes in the recycling process of organics matter. What is sarcinae? 2+4+2
10. Differentiate between selective media and differential media. Name two antifungal agents. Draw an HIV and label it. 2+2+2+2

UNIT – 16 Marks 20

ADVANCE STUDIES IN APPLIED BIOTECHNOLOGY & MOLECULAR PHARMACOLOGY

Group A

Answer any two questions from the following: **2x2= 4**

1. Define cloning. 2

2. State the principle of Real Time PCR. 2
3. Define Totipotent cells. 2
4. What is bioavailability? 2

Group B

Answer any two questions from the following: **2x4 = 8**

5. Name two ways in which microorganism can be used for pollution control. Give the flow chart of the process of PCR. 2+2
6. Discuss the role of Ti plasmid in the field of genetic engineering. Name the process by which gene can be transferred to the explant. 2+2
7. What do you mean by therapeutic induce? Define LD 50 and ED 50. 2+1+1
8. Define pharmacokinetics and pharmacodynamics. 2+2

Group C

Answer any one question of the following: **1x8 = 8**

9. How would you detect the integrated gene of interest in a genome? Explain.
10. Write the applications of -
    i) Micro-array technique.
    ii) FACS
    iii) Western blot
    iv) Hybridoma technology.