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RNLKWC/P.G./CBCS/IVS/PHY/403/22

2022

HUMAN PHYSIOLOGY

[P.G.]

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

PAPER-PHY403 (Special Paper)

[MICROBIOLOGY AND IMMUNOLOGY]

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 – 37

MICROBIAL GENETICS : ADVANCE STUDIES

1. Answer any two questions from the following: 2x2= 4
 - a) What is satellite DNA? 2
 - b) Give one application gene silencing. 2
 - c) What is a C- value paradox? 2
 - d) What is the significance of nfr? 2

2. Answer any two questions from the following: 2x4 = 8
 - a) Give the differences between specialized and generalized transduction.

(2)

- b) What are cot curves? What is the significance of reocitive DNA in renaturation kinetics?
- c) Name two proteins involved in gene regulation. Why is gene expression regulated?
- d) What are IS elements? Explain the process of attenuation with a suitable diagram.

3. Answer any one questions of the following: 1x8 = 8

- a) Explain the N-CRO switch of the lytic lysogenic stage of any bacteriophage, with a suitable diagram. What is the physiological significance of bacterial conjugation? What do you mean by linked genes? 4+3+1

Write briefly on termination of transcription. State the evolutionary significance of gene mutation. Give one application of anti-sense RNA. 4+3+1

UNIT - 38

CLINICAL IMMUNOLOGY

- 1. Answer any two questions from the following 2x2= 4
- a) What is CAM? 2
- b) What is DNA vaccine ? 2
- c) Define Protooncogene. 2
- d) State the principle of FACS 2

(3)

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

- a) Give the full form of ELISA. Give an application each of SEM and TEM. $1+1\frac{1}{2}+1\frac{1}{2}$
- b) What is inflammation ? Explain the Cytokine storm? 2+2
- c) Give the full form of DTH. What is serum sickness? Explain its mechanism. 1+1+2
- d) Differentiate between Indirect and Direct ELISA. 2+2

3. Answer any one questions of the following: 1x8 = 8

- a) Explain the process of Type I Hypersensitivity with suitable diagram. 8
- b) Explain the molecular basis of the disease Myasthenia Gravis. What is graft rejection? Differentiate between allograft and Xenograft. 4+2+2