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Your Roll No. .....

1030

B.Sc. (Hons.)/II **C**

MICROBIOLOGY Paper VI

(Virology)

(Admissions of 2004 and after)

Time : 3 *Hours* *Maximum Marks* : 60

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any *five* questions.

All questions carry equal marks.

(*a*) Write the salient features of the genomes of the following viruses (any *three*) : 3×3=9

(*i*) Geminiviruses

(*ii*) Hepatitis B

P.T.O.

(*iii*) Retroviruses

(*v*) Tobacco Mosaic Virus.

(*b*) Differentiate between vertical and horizontal transmission of viruses. 3

2. Give the principle and applications of the following virological techniques (any *three*) : 3×4=12

(*i*) ELISA

(*ii*) Viral neutralization

(*iii*) Immunodiffusion

(*iv*) Western Blotting.

3. (*a*) Describe one step multiplication curve of bacteriophages. 4

(*b*) Discuss the symmetry of viruses. 4

(*c*) What are viroids and how do they replicate ? 3

(*d*) What are viral envelopes made of ? 1

4. (*a*) Define the following (any *six*) : 6×1=6

Overlapping genes, syncytia, latent infections, tumor suppressor genes, satellite viruses, lysogenic conversions, diploid cell strains.

(*b*) Discuss the lysogeny in phage lambda. 4

(*c*) What.is m.o.i. ? Explain its significance. 2

5. (*a*) Give the contributions of the following scientists in the field of virology : 4×2=8

(*i*) Felix de Herelle

(*ii*) Max Delbruck

(*iii*) Stanley Pruisner

(*iv*) Alexander Sabin.

(*b*) What are interferons ? Explain their mode of action. 4

6. (*a*) What are prions ? 3

(*b*) Compare the persistent and non-persistent transmission of viruses. 4

(*c*) What are ambisense viruses ? 2

(*d*) What is phage display technique and what is its major use ? 3