SH-II/SH-MCB/201/C-4(T-4)18

B.Sc. Semester II (Honours) Examination 2018

MICROBIOLOGY

Subject Code : 22202 **Course Code : SH/MCB/202/ C-4**

Course Title : Virology

Time: 1 hr. 15 min. **Full Marks: 25**

The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following : 1×5=5

(a) What is ICTV?

(b) Define apoptosis.

(c) State the function of P^{53} protein.

(d) Define satellite virus.

(e) Name one antiviral drug.

(f) Define vaccine.

(g) Name an oncogenic DNA virus.

(h) What are retro viruses? Give an example.

2. Answer *any two* questions from the following : 5×2=10

(a) Write a brief note on cultivation of virus. 5

(b) Write a short note on Baltimore's classification of viruses. 5

(c) Discuss the transmission and pathogenicity of prion. 2+3=5

(d) What are viruses? Write the living and non-living characters of viruses. 1+2+2=5

3. Answer *any one* question from the following : 10×1=10

(a) Briefly explain salient features, transmission and replication of HIV. What is 'HAART' treatment? 3+2+3+2=10

(b) Diagrammatically describe the molecular mechanism of lysogenic to lytic conversion in lamda phage. Define prophage, temperate phage and virulent phages. 7+3 =10

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SH-II/SH-MCB/201/C-3(P-3)(PR)/18

B.Sc. Semester II (Honours) Practical Examination 2018

MICROBIOLOGY

Subject Code : 22211 **Course Code : SH/MCB/201/C-3**

Course Title : Biochemistry Lab

Time: 2 hrs. **Full Marks: 15**

The figures in the right hand side margin indicate marks.

1. Prepare a standard curve for the supplied sample (A1 / A2), using five known concentration. Determine the concentration of sample supplied to you (A1/A2). 8
   [Principle 2; Graph and Table 4; Result 2]
2. Viva voce 5
3. Laboratory Notebook 2

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B.Sc. Semester II (Honours) Practical Examination 2018

MICROBIOLOGY

Subject Code : 22211 **Course Code : SH/MCB/201/C-3**

Course Title : Biochemistry Lab

INSTRUCTIONS TO THE EXAMINERS :

1. Key to the materials should be submitted along with the answer-scripts.
2. For question no.1, clean test-tubes racks, pipetts etc. should be supplied to each candidates. Supply 10 ml of stock solution for A1 (Sugar-Glucose) or A2 (Protein-BSA) with following concentration.

   Sugar-50–500 µg / ml

   BSA - 50-500 µg / ml

   Supply an unknown sample of sugar and protein for estimation. Each student must have 5 concentration for preparing the standard curve.
3. Marks, answer-scripts, key to the materials with duly signed part marking should be sent to the Controller of Examination within one week of completion of examination.
4. Candidate must select specific experiment by draw.

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BNK22211

SH-II/SH-MCB/202/C-4(P-4) (PR)/18

B.Sc. Semester II (Honours) Practical Examination 2018

MICROBIOLOGY

Subject Code : 22212 **Course Code : SH/MCB/202/C-4**

Course Title : Virology Lab

Time: 2 hrs **Full Marks: 15**

The figures in the right hand side margin indicate marks.

1.	Identify the supplied specimen (A&B) mentioning specific characteristics. [Identification-½; Characteristics- 1½]	2×2=4
2.	Demonstrate the experiment supplied to you. [Demonstration-2; Principle-1; Short write up-1]	4
3.	Viva-voce	3
4.	Laboratory Notebook	2
5.	Field Report	2

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BNK22212

B.Sc. Semester II (Honours) Practical Examination 2018

MICROBIOLOGY

Subject Code : 22212 **Course Code : SH/MCB/202/C-4**

Course Title : Virology Lab

INSTRUCTIONS TO THE EXAMINERS:

1. Key to the materials should be submitted along with answer-scripts
2. Examiners are requested to keep arrangement of at least two sets of electron micrograph for question no.1.
3. For question no.2, *any one* from the following experiments should be asked for:
   - A. Isolation of Bacteriophage from sewage sample (S.W)
   - B. Enumeration of Bacteriophage isolated from sewage water
   - C. Isolation of animal virus by using chick embryo technique

   Each candidate may be asked to demonstrate any one experiment. Examiners must keep all the materials ready and supply the same to each candidate for demonstration.
4. Marks list, answer-scripts, key to the materials with duly signed part marking should be sent to the Controller of Examination within one week of completion of examination.

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SH-II/SH-MCB/201/C-3(T-3) /18

B.Sc. Semester II (Honours) Examination 2018

MICROBIOLOGY

Subject Code : 22201 **Course Code : SH/MCB/201/C-3**

Course Title : Biochemistry

Time: 1 hr. 15 min. **Full Marks: 25**

The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

A. Answer *any five* from the following : 1×5=5

(i) Name two carbohydrates that contributes towards the formation of structure of cell.

(ii) Define EFA. Name one.

(iii) What is zwitterion? Give an example.

(iv) Differentiate between Z and B DNA.

(v) Name two non-protein enzymes.

(vi) Define allosteric inhibition.

(vii) Define epimer. Give an example.

B. Answer *any two* from the following : 5×2=10

(i) Derive the Michaelis-Menten equation. 5

(ii) With suitable diagram illustrate the salient features of α -helix structure of a typical poly-peptide. 5

(iii) Define fatty acid. Classify fatty acid with suitable example and structure. 1+(2+1+1)=5

(iv) What are co-enzymes and co-factors. Write with a suitable example for each. Write the significance of Vmax and Km value of an enzyme – substrate reaction. 2+1+1+1=5

C. Answer *any one* from the following : 10×1=10

(i) Classify amino acids based on their polarity, with suitable example and structure. Give the reaction of amino acid with Ninydrin. 8+2=10

(ii) Write the structure for simplest carbohydrate. What do you mean by D and L isomers of carbohydrates. Write the basic principle behind D and L nomenclature. What are sugar acid and amino sugars? Write at least one example for each. 2+2+2+2+2=10

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