

KATHMANDU UNIVERSITY
End Semester Examination
March/April, 2017

Marks Scored:

Level : B.Sc.

Year : II

Course : HBIO 201

Semester : I

Exam Roll No. :

Time : 30 mins.

F. M. : 20

Registration No. :

Date MAR 27 2017

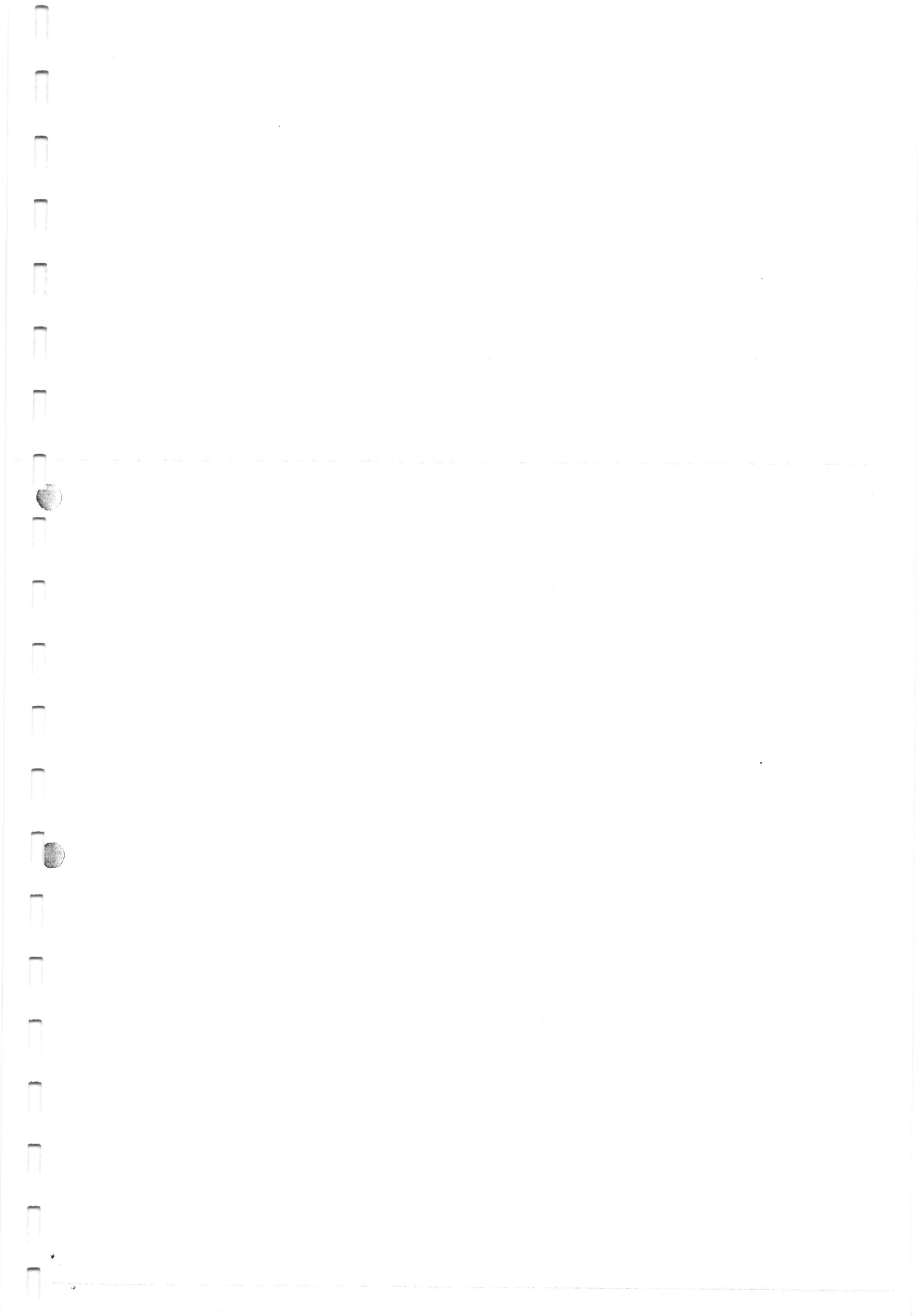
SECTION "A"

[15 Q. × 1 = 15 marks]

1. Interferons play important roles in host defence against viral infections. What is interferons principal mode of action?
 - a. It coats viral particles and thereby block the attachment of virus to host cells
 - b. It is present in the serum of healthy persons and that provides virus surveillance role
 - c. It protects the virus infected cell that produced it from cell death
 - d. It induces synthesis of one or more cellular proteins that inhibits translation or transcription
2. Which of the following mechanism carried genetic materials from one bacterium to another?
 - a. Transduction
 - b. Translation
 - c. Conjugation
 - d. All of them
3. Counter stain used in acid fast staining is
 - a. Carbol fuchsin
 - b. Acid alcohol
 - c. Methylene blue
 - d. Crystal violet
4. Flagella all around the cell is
 - a. Monotrichous
 - b. Peritrichous
 - c. Lophotrichous
 - d. Amphitrichous
5. Based on energy requirement and ability to synthesis essential metabolites, bacteria are classified into phototrophs, chemotrophs, autotrophs and heterotrophs. So, chemotrophs means
 - a. Derive energy from sunlight
 - b. Unable to synthesisi their own metabolites
 - c. Obtain energy from chemical reactions
 - d. Synthesize all organic compound
6. Who was the first to experimentally implemented the concept of pure culture?
 - a. Robert Koch
 - b. Alexander Fleming
 - c. Marcous Rues
 - d. None of them
7. If a segment of DNA is removed and reinserted in a reverse direction, it is called
 - a. Lethal mutation
 - b. Inversion mutation
 - c. Silent mutation
 - d. Missense mutation
8. Physical condition required for the growth of bacteria is/are:
 - a. Temperature
 - b. Light
 - c. Osmotic effect
 - d. All of them
9. Mac Conkey agar is an example of
 - a. Differential media
 - b. Selective media
 - c. Enriched media
 - d. Liquid media
10. Organs of adhesion is
 - a. Fimbriae
 - b. Flagella
 - c. Pilli
 - d. None of them

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22. Sterilization:
23. Sexual reproduction:
24. Thermal death point:
25. Microaerophilic bacteria:



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Time : 2 hrs. 30 mins.

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F. M. : 55

SECTION "C"

[3Q × 7 = 21 marks]
(Long answer question)

Attempt *ANY THREE* of the followings:

1. What is gene transfer? Name the different types of gene transfer and write in brief on conjugation.
2. Explain bacterial cell structure with well labelled diagram.
3. Classify fungi. Explain the laboratory diagnosis of fungal infection. Add note on cultivation of fungi.
4. Explain the methods used for control of microbial growth.

SECTION "D"

5. Write short notes on (*ANY FIVE*) [5Q × 5 = 25]
 - a. Replication of virus
 - b. Physical condition required for the growth of bacteria
 - c. Drug resistance
 - d. Bacterial growth curve
 - e. Structure and arrangement of flagella
 - f. Fermentation technology
6. Differences between (*ANY THREE*) [3Q×3=9]
 - a. Exotoxins and Endotoxins
 - b. Fimbriae and Flagella
 - c. Gram positive bacteria and Gram negative bacteria
 - d. Virus and bacteria

