

[A-99]

No. Of Printed Pages: 2

Sardar Patel University
MSc Integrated Biotechnology Examination -Semester 8
PS08CIGMB1: Medical Microbiology
Tuesday 29th March, 2016
2:30 pm to 5:30 pm

Note:

1. Figures to the right indicate marks.
2. Draw neat and labelled diagram, wherever necessary.

Total Marks: 70

Q.1 Multiple choice questions

[08]

- 1 African trypanosomiasis is also known as.....
a. Chaga's disease b. Black water disease c. Sleeping sickness d. blood dysentery
- 2 Sporozoite is the infective form of
a. *L. donovani* b. *E. histolytica* c. *P. vivax* d. *T. vaginalis*
- 3 Which one of the bacteria is causing "Pseudomembrane formation",
a. *S. aureus* b. *S. pyogenes* c. *C. diphtheriae* d. both a and b
- 4 A researcher conducts a standard test to identify pathogen (A, B, C) on the basis of their biochemical properties. the result is given in the following table.

Test	Bacteria		
	A	B	C
Gram Staining	Gram +Ve Cocci	Gram +Ve Cocci	Gram -Ve short road
Blood agar (aerobic)	B hemolysis	-	-
catalase	+	-	+
Coagulase	+	+	-

Based on the above, identified bacteria A, B and C are most probably.

- a. *Escherichia*, *Staphylococcus*, *Streptococcus*
 - b. *Escherichia*, *Streptococcus*, *Staphylococcus*
 - c. *Streptococcus*, *Staphylococcus*, *Escherichia*
 - d. *Staphylococcus*, *Streptococcus*, *Escherichia*
- 5 The best method for documentation of acute hepatitis A virus infection is the demonstration of high titres of virus-specific antibody in serum drawn during the acute phase of illness.
a. IgG b. IgM c. IgA d. IgE
 - 6 Confirmatory test for diagnosis of HIV is
a. Rapid Immunochromatographic test b. ELISA
c. Western blot d. None
 - 7 Dermatormycoses is the study of
a. Fungus disease of hair b. fungus disease of skin
c. fungal disease of nails d. all the above
 - 8 The following is not an example of dermatophyte
a. *Trichophyton* b. *Epidermophyton* c. *Microsporium* d. *Fusarium*

Q.2 Attempt any seven

[14]

- 1 Briefly explain the morphological forms of *Leishmania donovani*.
- 2 Draw trophozoite and cyst of *E. histolytica*

- 3 Briefly explain the toxins produced by pathogenic strains of *Escherichia coli*.
- 4 Why a throat infection may lead to heart attack?
- 5 Briefly explain the mode of action of diphtheria toxin.
- 6 Clinical disease caused by Herpes simplex virus
- 7 Briefly describe preventive strategies against Hepatitis B virus.
- 8 What is m-y shift? Explain with example.
- 9 What is Mycetoma?
- Q.3** A Give life cycle of *Ascaris lumbricoides*. [06]
- B Discuss the morphological features and life cycle of *Leishmania* sp. causing visceral leishmaniasis in humans. [06]
- OR
- B What is malaria? Explain the life cycle of causative agent and correlate with clinical manifestation of malaria. [06]
- Q.4** A In detail explain pathogenesis of *S. aureus* and laboratory diagnosis performed to identify pathogen. [06]
- B Discuss virulence factors involved and disease caused by *Mycobacterium tuberculosis*. [06]
- OR
- B Briefly explain the modes of genetic exchange prevail in the bacterial kingdom. Compare generalized and specialized transduction process. [06]
- Q.5** A Write a detailed note on classification of animal Viruses. [06]
- B Write a detailed note on HIV virus infection and clinical manifestation. [06]
- OR
- B Give comparative account on HSV-1 and HSV-2 infection. [06]
- Q.6** A Discuss pathogenesis, laboratory diagnosis and treatment of sporotrichosis. [06]
- B Write a detailed note on systematic classification of Fungus. [06]
- OR
- B Write a detailed note on different types of Opportunistic Mycoses. [06]

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(2)