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Roll No. _____ Answer Sheet No. _____

Sig. of Candidate. _____ Sig. of Invigilator. _____

MICROBIOLOGY HSSC–II

SECTION – A (Marks 10)

Time allowed: 10 Minutes

NOTE: Section–A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 10 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries ONE mark.

(i) Calcofluor white stained yeast, hyphae and pseudohyphae are examined under:

A. Light microscope B. Dark field microscope

C. Fluorescence microscope D. Electron microscope

(ii) Presence of ingested RBC's is characteristic of:

A. Entamoeba coli B. Iodamoeba butcheli

C. Entamoeba histolytica D. Dientamoeba fragilis

(iii) Protozoan transmitted sexually is:

A. Trichomonas vaginalis B. Entamoeba histolytica

C. Giardia lamblia D. Blantidium coli

(iv) Which term best denotes the relatively harmless bacteria which reside at the surface of the skin, upper respiratory tract and intestine?

A. Commensals B. Invasive organisms

C. Pathogens D. Saprophytes

(v) Each of the following statement concerning malaria is correct except:

A. The female anopheles mosquito is the vector

B. In early infection, sporozoites enter hepatocytes

C. Release of merozoites from RBC's cause fever and chills

D. The principal site of gametocyte formation is the human gastrointestinal tract

(vi) Which objective provides the greatest field of view?

A. High B. 100 x

C. Low D. This depends on if the specimen is stained

(vii) Each of the following statement concerning Ascaris lumbricoides is correct except:

A. Ascaris lumbricoides is one of the largest menatode

B. Ascaris lumbricoides can cause pneumonia

C. Both dogs and cats are intermediate host of Ascaris lumbricoides

D. Ascaris lumbricoides is transmitted by ingestion of eggs

(viii) What must be done to a specimen to increase the contrast of the structures viewed?

A. Illuminated B. Stained

C. Placed under the cover slip D. Thinly sliced

(ix) Which is correct sequence of stage development of Household fly?

A. Egg – Larvae – Pupae – Adult fly B. Egg – Pupae – Larvae – Adult fly

C. Immature fly – Larvae – Pupae – Adult fly D. Immature fly – Pupae – Larvae – Adult fly

(x) SDA for fungal culture contains following ingredients except:

A. Peptone B. Glucose

C. Agar D. Lactose

For Examiner's use only:

Total Marks: 10

Marks Obtained:

MICROBIOLOGY HSSC–II

Time allowed: 2:20 Hours **Total Marks Sections B and C: 40**

NOTE: Answer any THIRTEEN parts from Section 'B' and any TWO questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2 = 26)

(i) What is systemic mycosis? Also enlist pathogens causing this disease.

(ii) Draw, label and describe egg of Schistosoma mansoni.

(iii) Which parasite(s) can be seen in CSF?

(iv) What will be the total magnification of microscope with 40x objective, 10x eyepiece and mechanical tube length of 160mm?

(v) Briefly enlist signs and symptoms of Chagas disease.

(vi) What are general characteristics of moulds? Also enlist medically important moulds.

(vii) Draw, label and describe schizonts of plasmodium vivax.

(viii) What is difference between fungi and actinomycetes?

(ix) What are the advantages of thick and thin film in diagnosis of malarial parasite?

(x) What is meant by definitive host? Name the definitive host in case of Taenia saginata.

(xi) Describe the term "Coccidia" with examples.

(xii) Enlist microbial pathogens transmitted by Household fly.

(xiii) Enlist the structures found in faeces that require differentiation from parasites.

(xiv) Why only female mosquito takes a blood meal?

(xv) Why is the immersion oil used while reviewing a slide under 100x objective of a light microscope?

(xvi) How schistosoma species are transmitted?

(xvii) Describe signs and symptoms due to strongyloidiasis.

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks. (2 x 7 = 14)

Q. 3 Enlist at least five species of dermatophytes. Describe the laboratory techniques and microscopic examination to identify dermatophytes infection in respective specimen types. Draw a figure.

Q. 4 Describe the life cycle, pathogenicity and laboratory diagnosis of Leishmania donovani.

Q. 5 Discuss lifecycle, pathogenicity and laboratory diagnosis of Enterobius vermicularis.