

**Madhya Pradesh Medical Science University,
Jabalpur**
**MBBS Second Professional Examination April-
2024**
Subject-Microbiology
Paper-I (new scheme)

Time: 3 Hours

Maximum Marks :100

- a) All questions are compulsory
- b) Draw diagrams wherever necessary
- c) Answers of Questions and Sub-questions must be written strictly according to serial order of question paper.
- d) MCQ has to be answered in theory answer book
- e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets; for example: - 1. (a) 2. (c)
- f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice, such answers will not be counted in marks and action will be taken according to UFM rules of university.
- g) Subjective answer should be answered in up to 30 words per marks. For example, if a question having 2 marks should answered in up to 60 marks.

Q1. Total MCQs: 10

1) India ink staining is used to demonstrate: -

$10 \times 1 = 10$

- (a) Cell wall
 - (b) Bacterial capsule
 - (c) Bacterial flagella
 - (d) Bacterial spore
- 2) Active immunity is not acquired by: -
- (a) Infection
 - (b) Vaccination
 - (c) Transplacental Immunoglobulin Transfer
 - (d) Sub-clinical infection
- 3) Which of the following confirms the isolate of V. cholera as Ogawa serotype: -
- (a) If agglutinated with Ogawa antiserum
 - (b) If agglutinated with Inaba antiserum
 - (c) If agglutinated with Hikojima antiserum
 - (d) If agglutinated with both Ogawa and Inaba antiserum
- 4) Culture media for transport of stool sample in suspected case of Shigellosis: -
- (a) Deoxycholate medium
 - (b) Blood agar
 - (c) Nutrient broth
 - (d) Buffered glycerol saline
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- 5) HIV RNA detection (by RT-PCR) reduces the window period to,
- (a) 1-14 days
 - (b) 3 weeks
 - (c) 4 weeks
 - (d) 8 weeks
- 6) In revised Jones criteria for acute rheumatic fever, the major manifestations include all except:
- (a) Subcutaneous nodules
 - (b) Pan carditis
 - (c) Arthritis (migrating polyarthritis)
 - (d) Increased ASO antibodies
- 7) Maltese cross form is seen in:-
- (a) Plasmodium vivax
 - (b) Babesiosis
 - (c) Brucellosis
 - (d) Bartonellosis
- 8) All the following pathogenic bacteria fulfill Koch's postulates, except: -
- (a) Treponema pallidum
 - (b) Yersinia pestis
 - (c) Bacillus anthracis
 - (d) Helicobacter pylori
- 9) Which of the following is associated with cholangiocarcinoma: -
- (a) Ascaris
-

- (b) Ancylostoma
- (c) Enterobius
- (d) Strongyloides

10) Which of the following is associated with cholangiocarcinoma: -

- (a) Clonorchis sinensis
- (b) Fasciola hepatica
- (c) Fasciolopsis buski
- (d) Toxocara canis

Q2. Long Answer Questions

a) A 14-year-old boy presented with a history of fever with headache, malaise, and abdominal discomfort for the last

8 days. Fever was of the remittent type, with a gradual rise in a step-ladder fashion. On examination, he was

febrile & temperature of 101 °C, along with relative bradycardia, a coated tongue, & soft, palpable spleen.

(3+5+8+4) 2 x 20 = 40

- I. What will be the most common probable diagnosis & etiological agent?
 - II. Describe the pathogenesis of this condition in detail.
 - III. Make a plan for sample collection & laboratory diagnosis of this disease.
 - IV. Add a note on prophylactic measures for this disease.
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b) Define antimicrobial resistance & its types. Discuss in detail the mechanism of antimicrobial drug resistance in bacteria. Add a note on the various methods used for antimicrobial susceptibility testing. (5+7+8)

Q3. Brief Answer Questions

- a) Write about the pathogenesis and lab diagnosis of Shigellosis. 6 x 05 = 30
- b) Explain blood culture method for detection of Infective Endocarditis.
- c) Discuss the laboratory diagnosis of HIV with a special mention of strategies for diagnosis during the window period.
- d) Describe life cycle of Echinococcus granulosus. Discuss pathogenesis & laboratory diagnosis of Echinococcosis.
- e) Discuss pathogenesis, clinical features and laboratory diagnosis of Histoplasmosis.
- f) Describe and discuss the role of beneficence & autonomy as guiding principles in patient care. List a few scenarios in which conflict between beneficence & autonomy may arise.

Q4. Short Answer Questions

- a) Enumerate 4 differences between exotoxins & endotoxins. 10 x 2 = 20
- b) Name 4 live attenuated vaccine.
- c) Enumerate any 4 examples of Type III hypersensitivity reactions.
- d) Passive agglutination test.
- e) Bacterial growth curve.
- C. Name 4 trematodes.
- b. Enumerate HACEK group of microorganisms.
- d. Name 4 cardinal principle of Bioethics.
- e. Draw life cycle of Entamoeba histolytica.
- f. Enlist complications of Plasmodium falciparum infection.

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