



KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH

MBBS Phase - II Degree Examination August 2025
QP CODE: A011

Microbiology Paper 1 [MICRO1]

Marks: 100

Duration: 180 mins.

MCQ: 20 X 1 = 20

Answer all the questions.

Section Duration: 30 mins

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|---|---|--------------------------------|--|---|--------------------------------|----------------------------|--|--|
| 1 | | | <p>A young male adult is admitted to hospital with complaints of diarrhoea since last night. He gave history of passing rice watery stools. He also told there were few more cases with similar complaints from his locality. He was diagnosed to have cholera. Recommended transport media for stool samples suspected to contain <i>Vibrio cholerae</i> is</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Buffered glycerol saline medium</td> <td style="width: 25%;">2) Venkatraman Radhakrishnan medium</td> <td style="width: 25%;">3) Nutrient broth</td> <td style="width: 25%;">4) Blood agar</td> </tr> </table> | | | 1) Buffered glycerol saline medium | 2) Venkatraman Radhakrishnan medium | 3) Nutrient broth | 4) Blood agar | | |
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| 2 | | | <p>Which of the following are highly resistant to heat?</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Bacterial spores</td> <td style="width: 25%;">2) Prions</td> <td style="width: 25%;">3) Non enveloped viruses</td> <td style="width: 25%;">4) Enveloped viruses</td> </tr> </table> | | | 1) Bacterial spores | 2) Prions | 3) Non enveloped viruses | 4) Enveloped viruses | | |
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| 3 | | | <p>A person who acquires the pathogen from another carrier is known as</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Healthy carrier</td> <td style="width: 25%;">2) Convalescent</td> <td style="width: 25%;">3) Temporary</td> <td style="width: 25%;">4) Paradoxical</td> </tr> </table> | | | 1) Healthy carrier | 2) Convalescent | 3) Temporary | 4) Paradoxical | | |
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| 4 | | | <p>A severely immunocompromised patient visited Medicine OPD . He can receive the following vaccines EXCEPT</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) DPT</td> <td style="width: 25%;">2) MMR</td> <td style="width: 25%;">3) Salk Polio vaccine</td> <td style="width: 25%;">4) Hepatitis B</td> </tr> </table> | | | 1) DPT | 2) MMR | 3) Salk Polio vaccine | 4) Hepatitis B | | |
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| 5 | | | <p>Regarding Primary immune response which of the following statement is correct?</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Involves IgG</td> <td style="width: 25%;">2) Memory B-cell are the antibody producing cells</td> <td style="width: 25%;">3) No lag period</td> <td style="width: 25%;">4) Slow and sluggish</td> </tr> </table> | | | 1) Involves IgG | 2) Memory B-cell are the antibody producing cells | 3) No lag period | 4) Slow and sluggish | | |
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| 6 | | | <p>A 56 year old farmer from India presented with on and off fever and joint pain. He was closely associated with animals and gave history of consuming raw milk. His blood culture gave gram negative bacilli . What is the likely causative agent?</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Mycobacterium tuberculosis</td> <td style="width: 25%;">2) Brucella melitensis</td> <td style="width: 25%;">3) Corynebacterium diphtheriae</td> <td style="width: 25%;">4) Klebsiella pneumoniae</td> </tr> </table> | | | 1) Mycobacterium tuberculosis | 2) Brucella melitensis | 3) Corynebacterium diphtheriae | 4) Klebsiella pneumoniae | | |
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| 7 | | | <p>Eschar is a pathognomonic finding in</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Spotted fever</td> <td style="width: 25%;">2) Typhus fever</td> <td style="width: 25%;">3) Q fever</td> <td style="width: 25%;">4) Scrub typhus</td> </tr> </table> | | | 1) Spotted fever | 2) Typhus fever | 3) Q fever | 4) Scrub typhus | | |
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| 8 | | | <p>A 53 year old man who was on long term antibiotics developed diarrhea. His stool examination showed the presence of leucocytes and was positive for toxin. What is the most likely etiological agent?</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Campylobacter jejuni</td> <td style="width: 25%;">2) Candida albicans</td> <td style="width: 25%;">3) Clostridium difficile</td> <td style="width: 25%;">4) Escherichia coli</td> </tr> </table> | | | 1) Campylobacter jejuni | 2) Candida albicans | 3) Clostridium difficile | 4) Escherichia coli | | |
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| 9 | | | <p>A 36 year old woman presented with fever headache since last four days, platelet count was 25000/mm and the tourniquet test was positive. What is the probable diagnosis?</p> | (1) | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">1) Yellow fever</td> <td style="width: 25%;">2) Chikungunya</td> <td style="width: 25%;">3) Dengue</td> <td style="width: 25%;">4) Kyasanur forest disease</td> </tr> </table> | | | 1) Yellow fever | 2) Chikungunya | 3) Dengue | 4) Kyasanur forest disease | | |
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| 10 | | | <p>Which of the following viruses causes rodent borne hemorrhagic fever?</p> | (1) | | | | |

1)	Lassa fever virus		2)	Dengue virus		3)	West-nile virus		4)	Western equine encephelitis	
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11

Highest risk of transmission of HIV is

(1)

1)	Sexual		2)	Needle / syringe		3)	Blood products		4)	Mother to foetus	
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12

Humans acquire Strongyloides infection by

(1)

1)	Ingestion of larva		2)	Ingestion of fertilised egg		3)	Penetration of skin by filiform larva		4)	Ingestion of egg	
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13

Intestinal complication of Shigellosis are the following **EXCEPT**

(1)

1)	Rectal prolapse		2)	Intussusception		3)	Toxic megacolon		4)	Pseudo appendicitis	
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14

Traveller's diarrhea is caused by

(1)

1)	ETEC		2)	EHEC		3)	EPEC		4)	EIEC	
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15

All of the following Vibrio species are halophilic **EXCEPT**

(1)

1)	V. cholerae		2)	V. parahaemolyticus		3)	V. alginolyticus		4)	V. vulnificus	
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16

The fungi frequently responsible for athlete's foot (tinea pedis) is

(1)

1)	T.rubrum		2)	T.mentagrophytes		3)	E.floccosum		4)	All of the above	
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17

Scalded skin syndrome is caused by exotoxin (exfoliatins) produced by

(1)

1)	Streptococcus pyogens		2)	Pseudomonas aeruginosa		3)	Staphylococcus aureus		4)	Propionibacterium acnes	
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18

Chiclero's ulcer is caused by

(1)

1)	Leishmania Mexicana complex		2)	Leishmanibraziliensis complex		3)	Leishmania peruviana		4)	Leishmania chagasi	
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19

An agent causing swimming pool granuloma is

(1)

1)	M. ulcerans		2)	M. kansasii		3)	M. marinum		4)	M. chelonae	
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20

Suitable site of biopsy for diagnosis of Trichinellosis is

(1)

1)	Diaphragm		2)	Pectoralis major		3)	Deltoid muscle		4)	Intercostal muscles	
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LONG ESSAY QUESTIONS: 2 X 10 = 20

Answer all the questions.

21

Define sterilisation. Classify sterilising agents used in a health care setting. Discuss Spaulding's classification for sterilisation of items used in hospitals. (1+6+3)

(10)

22

A 25 year old woman presented with weakness and anorexia of 3 weeks duration. She had no history of any intravenous drug abuse or receiving blood transfusions. Her eye examination revealed icteric sclera. Her Hepatitis test profile revealed IgM HAV antibody negative, HBV surface antigen positive, HBV core antibody positive and HBV surface antibody negative.

- What is the likely clinical diagnosis?
- How did she acquire this infection?
- Describe the structure of this virus with help of a diagram
- Describe its pathogenesis (1+1+3+5)

(10)

SHORT ESSAY QUESTIONS: 9 X 5 = 45

Answer all the questions.

23			A 30 year old male presents with complaints of abdominal pain, nausea and vomiting. He gives a history of passing foul smelling, loose , semi-formed stools with blood and mucus. Stool microscopy shows motile trophozoite. a) What is the likely pathogen causing this condition? b) Describe the pathogenesis of this disease.	(5)
24			A 65 year old female presents with painful vesicular eruptions on the lumber region, the rashes are confined to the dermatome of nerve. a. Name the above clinical condition? b. Describe the pathogenesis and laboratory diagnosis of this condition.	(5)
25			A lorry driver 42 year old man during a medical check -up, was found to have peripheral lymphadenopathy and genital ulcers. Physician suspects HIV. Discuss laboratory diagnosis of HIV infection in this case.	(5)
26			Discuss the differences between active and passive immunity.	(5)
27			Write a note on bacterial growth curve with the help of a diagram.	(5)
28			Explain the laboratory diagnosis of gas gangrene.	(5)
29			Write in detail the pathogenesis and laboratory diagnosis of Malta Fever.	(5)
30			A 37 year old male labourer presented with weakness, muscle aches and fever. The patient rapidly deteriorated, necessitating ICU admission due to septic shock and respiratory failure. He was diagnosed with Weils Disease. Describe in detail the pathogenesis and laboratory diagnosis of Weils Disease. (3+2)	(5)
31			Classify dermatophytes. Enumurate the laboratory diagnosis for dermatophytosis.	(5)

SHORT ANSWER QUESTIONS: 5 X 3 =15

Answer all the questions.

32			Enumerate three differences between Exotoxin and Endotoxin.	(3)
33			What is DEC provocative test?	(3)
34			Discuss Cutaneous Larva Migrans.	(3)
35			Enumerate the complications of Ascariasis	(3)
36			Discuss the barriers to the implementation of healthcare as a universal right.	(3)

-----End-----