

NC-2106000102030101

Second Year M.B.B.S. Examination

January - 2022

Microbiology : Paper-I

(New Course)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दशांश देव निशानीवाणी विजता उत्तरवही पर अवश्य लખवी. Fillup strictly the details of signs on your answer book.	Seat No. : <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Name of the Examination : Second Year M.B.B.S.	<div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: 100px; height: 100px; margin: 0 auto;">Student's Signature</div>
Name of the Subject : Microbiology : Paper-I	
Section No. (1, 2,.....) : Nil	
Subject Code No. : 2 1 0 6 0 0 0 1 0 2 0 3 0 1 0 1	

SECTION-IA

General Microbiology and Immunology

- 1 What is complement. Explain in detail about classical and alternate complement pathway. Discuss the effector functions of complement and complement deficiency associated diseases. 12×1=12

- 2 Short Notes: (Any Four) 7×4=28
 - (1) Major Histocompatibility Complex.
 - (2) Describe in detail about type 1 hypersensitivity.
 - (3) Enumerate various methods of Horizontal gene transfer. Discuss in detail about conjugation.
 - (4) Describe in detail about principle, application and modification of polymerase chain reaction.
 - (5) Describe antimicrobial susceptibility testing method.

- 3 Write Short answers in 2-3 lines: 5×2=10
- (1) What is agglutination reaction ? Give two examples of agglutination reaction.
 - (2) Enumerate two methods to check efficiency of sterilant and disinfection.
 - (3) What is microaerophilic bacteria ? Give two examples.
 - (4) Enumerate any four live vaccines.
 - (5) Give two examples of type III Hypersensitivity reaction.

SECTION-IB

Infection of Bloodstream and Cardiovascular System, Gastrointestinal Tract and Hepatobiliary System

- 1 5 Year old child presented to OPD with 12-15 12×1=12
episodes of severe watery diarrhea and vomiting since 2 days. Stool is collected and it has rice water type of appearance.
- (1) What is your probable diagnosis.
 - (2) Write in detail about laboratory diagnosis of causative organism.
 - (3) Which are the other species of causative organism.
- 2 Short Notes: (Any Four) 7×4=28
- (1) Enlist the diarrhoeagenic E.coli. Discuss the pathogenesis and laboratory diagnosis of diarrhoeagenic E.coli.
 - (2) Describe in detail about systemic candidiasis and laboratory diagnosis.
 - (3) 18 year old female presented with high grade fever which rises every third day with chills and rigor. Her blood sample was subjected to rapid diagnostic test which revealed positive for Plasmodium vivax. Discuss the laboratory diagnosis in detail.
 - (4) Describe in detail about pathogenesis, classification and laboratory diagnosis of Dengue virus infection.
 - (5) Describe in details about importance of communication skill for Doctor-patient relationship.

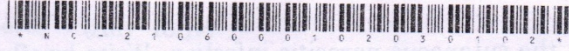
3 Write Short Answer in 2-3 Lines:

5×2=10

- (1) Enlist four examples of systemic mycosis.
 - (2) Name agents for lymphatic filariasis.
 - (3) Name four opportunistic infection associated with HIV/AIDS.
 - (4) Blood stream infection causing bacteria (Any four).
 - (5) Name two parasites causing autoinfection.
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SECTION-2

- 3 Write notes on: (Any 2) 10
- (a) Laboratory diagnosis of Kala-azar.
 - (b) Life cycle and laboratory diagnosis of *Taenia solium*
 - (c) Life cycle and pathogenicity of an ovo-viviparous nematode.
- 4 Write in short: (1 - 2 Sentences) 10
- (a) Inspissation.
 - (b) Give two differences between primary and secondary immune response.
 - (c) Enumerate 2 methods of cold sterilization.
 - (d) Name 2 transport media.
 - (e) Name 2 disorders of phagocytosis.
 - (f) Name 2 differential stains.
 - (g) Name 2 complications of falciparum malaria.
 - (h) Enumerate 2 parasites causing malignancy.
 - (i) Enumerate 2 differences of active and passive immunity.
 - (j) Draw a labeled diagram of IgA.



NC-2106000102030102

Second Year M. B. B. S. Examination

January - 2022

Microbiology : Paper-II

(New Course)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

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Name of the Examination :
Second Year M. B. B. S.

Name of the Subject :
Microbiology : Paper-II

Subject Code No. : Section No. (1, 2,.....): Nil

2 1 0 6 0 0 0 1 0 2 0 3 0 1 0 2

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Student's Signature

Section IIA: Infections of skin, Soft Tissue and Musculoskeletal System and Respiratory System

- 1 A 25 year old male was admitted 5 days after a 12×1=12
crush injury to his right leg following a road traffic accident.
On examination, the wound which was bandaged with a
solid gauze appeared to be heavily contaminated with soil,
the local muscles appeared to have been crushed. There was
edema and pain at the site of crepitus, felt on palpitation.
- (1) What is the clinical condition? List the etiological agent
responsible for this condition.
- (2) Describe in detail the pathogenesis of this condition.
- (3) Describe in detail about laboratory diagnosis of this
condition.
- 2 Short Notes : (Any four) 7×4=28
- (1) Discuss the pathogenesis and infection control measures
to prevent the transmission of COVID-19 infection.
- (2) Discuss in detail about clinical manifestation and
laboratory diagnosis of pulmonary aspergillosis.

NC-2106000102030102]

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- (3) List the cutaneous parasitic infection. Write briefly on cutaneous larva migrans.
- (4) A child aged 6 year with high grade fever, toxic, pain in the throat, inability to swallow was brought to the casualty. On examination a white patch was found on the tonsillar fossa which started bleeding when touched. No history of immunization available. What is the clinical diagnosis? Write in detail laboratory diagnosis of this condition.
- (5) Discuss in detailed about MRSA (Methicillin - Resistant Staphylococcus Aureus).

3 Write short answers in 2-3 lines. 5×2=10

- (1) Name any two superficial dermatophytoses with their morphology.
- (2) Expand RNTCP
- (3) Name four parasite causing skin and soft tissue infection.
- (4) Name two clinical features expressed by bacillus anthrax infection.
- (5) Write about Neagler reaction.

**Section IIB: Infections of Central Nervous system,
Genitourinary System, Hospital infection and control and
Miscellaneous**

- 1 A 32 year old female was admitted with dysuria 12×1=12
(burning micturition) and increased frequency of micturition for the past 2 days. Culture of the urine specimen revealed lactose fermenting colonies on Mac-Conkey agar.
 - (1) What is your clinical diagnosis and probable etiological agents?
 - (2) What are the risk factors associated pathogenesis and clinical manifestation of this diseases?
 - (3) Describe the laboratory diagnosis in detail.
 - (4) How will you treat this condition?

2 Short Notes : (Any four)

7×4=28

- (1) A 28 year old heterosexual male with history of sexual exposure with commercial sex worker is presented to STD clinic with painless hard indurated genital ulcer and painless hard lymph nodes. What is the clinical diagnosis and write in detail about laboratory diagnosis of causative organism.
- (2) Enlist the various causes of non-gonococcal urethritis and describe in detail about life cycle and laboratory diagnosis of chlamydia trachomatis infection.
- (3) A 35 years old male with history of HIV/ AIDS presented to casualty with high grade fever, headache and seizures. CSF microscopy revealed budding yeast cells, surrounded by a halo. What is etiological diagnosis and discuss its laboratory diagnosis and treatment.
- (4) Enumerate different physical method of sterilization. Describe in detail about Filtration.
- (5) What do you know about Autonomy? Define consent and write in detail about types of consent.

3 Write short answers in 2-3 lines.

5×2=10

- (1) What is reemerging infection? Give two examples.
- (2) Name two diseases transmitted by tick.
- (3) What is TORCH infection ?
- (4) Enlist the organism causing nongonococcal urethritis.
- (5) Enumerate four parasites causing malignancy.



NC-2006000102020002

Second Year M.B.B.S. Examination

January - 2022

Microbiology : Paper-II

(Old Course)

Time : 2 Hours]

[Total Marks : 40

Instruction :

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Name of the Subject :	<input type="text"/>
Microbiology : Paper-II (Old Course)	<input type="text"/>
Subject Code No. :	Section No. (1, 2,.....) : 1&2
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SECTION - I

- 1 Describe the pathogenesis and post exposure prophylaxis against rabies. 8

OR

Enumerate viruses affecting liver. Write viral markers of Hepatitis B virus.

- 2 Write Short notes on: (Any 3) 12
- Etiology and lab diagnosis of meningitis.
 - Laboratory diagnosis of pulmonary tuberculosis.
 - Classify streptococci. Add a note on pathogenicity of *S. pyogenes*
 - Pathogenesis and lab diagnosis of gas gangrene.

SECTION - II

- 3 Write notes on: (Any 2) 10
- Classification and lab diagnosis of fungal infections.
 - Enumerate opportunistic fungal infections. Write note on pathogenesis & lab diagnosis of any one.
 - Dermatophytes.

NC-2006000102020002]

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- 4 Write in short: (1 - 2 sentences) **10**
- Define Biological False Positive (BFP) reaction in syphilis.
 - Give one example each of enrichment and selective media used for Salmonella.
 - Enumerate 4 clinical syndromes caused by *E.Coli*.
 - Name two halophilic vibrios.
 - Name two infections caused by *Cryptococcus neoformans*.
 - Give two uses of bacteriophage.
 - Name two human prion diseases.
 - Define hospital - acquired infection.
 - Give two differences between 'orthomyxo' and 'paramyxo' virus.
 - Type and schedule of Hepatitis B vaccine.

Roll No.	
Name	
Department	
Year	
Signature	

SECTION - I

1 Describe the pathogenesis and post exposure prophylaxis against rabies.

OR

2 Enumerate viruses affecting liver. Write viral markers of Hepatitis B virus.

3 Write short notes on: (Any 3)

- Pathology and lab diagnosis of meningitis.
- Laboratory diagnosis of pulmonary tuberculosis.
- Classify streptococci. Add a note on pathogenesis of *S. pyogenes*.
- Pathogenesis and lab diagnosis of *Es. coli*.

SECTION - II

4 Write notes on: (Any 2)

- Classification and lab diagnosis of fungal infections.
- Enumerate opportunistic fungal infections. Write note on pathogenesis & lab diagnosis of any one.
- Dermatophytes.