All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Supplementary Examination 2020 (Batch 2017)
Time: 3 Hrs **Microbiology (Paper–I)** **Max. Marks: 100**

Instructions: ***Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'***

SECTION - A

1. Define hypersensitivity. Classify different types of hypersensitivity, mention their principle and give example of each. Describe Type 1 hypersensitivity. **(1+5+4=10)**

2. Short answer questions: **(5x5=25)**
   a. Bacterial growth curve
   b. Spaulding's classification
   c. Conjugation
   d. Structure of IgG
   e. Mention the differences between Gram positive and Gram-negative bacterial cell wall.

3. Short answer questions: **(3x5=15)**
   a. Write the differences between Exotoxin and Endotoxin
   b. Superantigens
   c. Write the differences between mutational and transferable drug resistance

SECTION B

1. Read the clinical history and answer the following questions –
   A 23 years old male had unprotected sex with a commercial sex worker. Two weeks later he developed a painless, indurated ulcer on the glans which exudated clear serum under pressure. Bilateral inguinal lymphadenopathy was seen which was non-tender.
   (1+5+4=10)
   a. What is the most probable diagnosis?
   b. Describe the pathogenicity and laboratory diagnosis.
   c. Describe the clinical course of the disease.

2. Short answer questions **(5x5=25)**
   a. Monoclonal antibody
   b. TRIC agents
   c. Diarrhoeagenic *Escherichia coli*
   d. Biomedical waste segregation
   e. Automated methods for culture of *Mycobacterium tuberculosis.*

3. Short answer questions **(3x5=15)**
   a. Write the differences between *Streptococcus pneumoniae* and *Streptococcus viridans*
   b. Difference between B lymphocytes and T lymphocytes
   c. Standard precautions

****

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Supplementary Examination 2020 (Batch 2017)

Time: 3 Hrs **Microbiology (Paper–II)** **Max. Marks: 100**

Instructions: ***Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'***

SECTION - A

1. Describe the morphology and classification of Influenza virus. Write the antigenic variations and their importance in Influenza A virus. Discuss the laboratory diagnosis of Influenza A virus. **(2+4+4=10)**

2. Short answer questions **(5x5=25)**

a. Write the serological markers of Hepatitis B virus with their clinical implication. **(2+3)**

b. Human Papillomavirus (HPV) and its preventions.

c. Enumerate five human oncogenic viruses with the corresponding malignancy caused by them.

d. Virus isolation methods

e. Non-neural Rabies vaccine

3. Short answer questions: **(3x5=15)**

a. Name 4 causes of viral hemorrhagic fever. Write the serological tests for dengue virus infection.

b. Pulse Polio Immunization Programme

c. Corona Virus

(P. T. O)

SECTION B

1. Name the different species of Malaria parasites. Describe the lifecycle and laboratory diagnosis of malaria. **(2+4+4=10)**

(5x5=25)

2. Short answer questions:
   a. Write the followings regarding Kalazar: **(1+1+3=5)**
      i. Name the causative agent
      ii. Write the infective and diagnostic stage.
      iii. Enumerate the specific and non-specific serological tests.
   b. Neuro-cysticercoses
   c. Mention the parasite causing hydatid cyst. Name two common sites. Describe the morphology of hydatid cyst and composition of hydatid fluid.
   d. Lymphatic filariasis and its prevention
   e. Haemoflagellates

3. Short answer questions: **(3x5=15)**
   a. Mycetoma
   b. Sporotrichosis
   c. Write the morphological classification of fungi with examples.

****

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2020 (Batch 2018)

Time: 3 Hrs | MICROBIOLOGY (PAPER–II) | Max. Marks: 100

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'

SECTION A

1. Describe the morphology of Hepatitis –B virus. Discuss the lab diagnosis and prophylaxis of Hepatitis –B virus. **(2+4+4=10)**

2. **Short answer questions.** **(8x5=40)**
   a) Antigenic variation in Influenza virus
   b) Bacteriophage & its therapeutic utility
   c) Varicella zoster
   d) Prophylaxis against polio
   e) SARS-COV-2
   f) Zika virus
   g) Cytopathic effect
   h) Congenital rubella syndrome

SECTION B

1. Discuss the life cycle, pathogenesis and lab diagnosis of Entamoeba hystolytica. **(3+2+5=10)**

2. **Short answer questions** **(8x5 =40)**
   a) Superficial mycosis
   b) Candidiasis
   c) Mucormycosis
   d) Mycetoma
   e) Occult filariasis
   f) Pneumocystis jirovecii
   g) Complications of falciparum malaria
   h) Cysticercosis.

****

50

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2020 (Batch - 2018)
Time: 3 Hrs **MICROBIOLOGY-I** **Max. Marks: 100**

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'.

SECTION A

1. Define sterilization. Describe the principle and functioning mechanism of autoclave, write 3 items that are sterilized by autoclave and biological indicator used in autoclave. **(2+2+3+1.5+1.5)**

2. **Short answer questions.** **(8X 5= 40)**

   a) Koch's postulates
   b) Chemical sterilizing agents
   c) Transformation
   d) Bacterial cellwall
   e) Type II hypersensitivity
   f) Agglutination reaction
   g) IgA
   h) Selective culture media

SECTION B

1. **Read the clinical history and answer the following.**

   A 28 year old man with history of multiple sexual partners complained of a painless small ulcer on the penis during last 2 weeks. **(2+2+4+2=10)**

   a) What is the probable diagnosis and causative agent ?
   b) What are the clinical samples and method of collection to conclude the diagnosis ?
   c) Describe the laboratory diagnosis of the disease.
   d) What antibiotics are prescribed for treating such cases ?

2. **Short notes** **(8x5=40)**

   a) Non-suppurative post streptococcal squealae
   b) Elek's gel precipitation test
   c) Multi drug resistant tuberculosis (MDR TB)
      i. Define MDR TB
      ii. Molecular methods for detection of MDRTB.
   d) VDRL test
   e) Helicobacter pylori
   f) Scrub typhus
   g) Enumerate 4 clinically important disease entity caused by Clostridium species along with their respective causative organism
   h) Pathogenesis of cholera

****

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Final Examination 2019 (Old Batch)

Time: 3 Hrs **Microbiology (Paper–I)** **Max. Marks: 75**

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'

SECTION -A

1. Name the causative agents of enteric fever. Discuss the laboratory diagnosis and vaccines of enteric fever. **(1+6+3=10)**

2. Enumerate various methods of transmission of genetic material in bacteria. Write mechanism of any one of them. Tabulate the differences between mutation and transferable drug resistance. **(2+4+4=10)**

SECTION – B

(6x5=30)

3. **Write short answers:**
   a. Bacterial growth curve
   b. Type IV hypersensitivity
   c. Differences between active and passive immunity
   d. Differences between Classical *V.cholerae* and El Tor vibrios.
   e. VDRL test
   f. Methicillin resistant *Staphylococcus aureus* (MRSA)

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2019 (Old batch)
Microbiology (Paper–I)

Multiple choice questions **Total Marks - 25** **Time: 30 minutes**

SECTION – C

Single response type **(5×1=5)**

Please (✓) on appropriate answer

1. The grouping of hemolytic Streptococci is based on the following
   a. M protein
   b. Carbohydrate (C) antigen
   c. Streotolysin O
   d. T protein antigen

2. Which of the following test is based on agglutination reactions?
   a. Nagler's reaction
   b. VDRL test
   c. Wasserman test
   d. Weil-Felix test

3. Bipolar staining is characteristic of
   a. *Shigella sonni*
   b. *Escherichia coli*
   c. *Yersinia pestis*
   d. *Klebsiella pneumoniae*

4. Which of the following is the major site of complement protein synthesis?
   a. Liver
   b. Intestinal epithelium
   c. Lungs
   d. Macrophage

5. Which of the following Gram-negative bacilli produces swarming on blood agar
   a. *Escherichia coli*
   b. *Klebsiella pneumoniae*
   c. *Pseudomonas aeruginosa*
   d. *Proteus mirabilis*

(2x1=2)

Multiple Completion Type

Each of the following questions/statements has one or more correct response(s).
Answer using the following key:

A. Only 1,2 and 3 are correct
B. Only 1 and 3 are correct
C. Only 2 and 4 are correct
D. Only 4 is correct
E. All 4 are correct

6. Which of the following/s is /are characteristics of *Mycobacterium tuberculosis*

1.It is an obligate aerobe

2. It is acid fast as well as alcohol fast

3. Nitrate reduction test is positive

4. Pyrazinamide test is negative

Ans:_____

7. Regarding bacterial endotoxins

1. They are heat stable

2. Highly antigenic

3. Fatal in very large doses

4. Protein in nature

Ans:_____

(4x2=8)

True False Type

8. Regarding Chlamydia trachomatis

a. Serotype A, B and C causes Lymphogranuloma venerum

b. It can cause pneumonia

c. Serotypes L1, L2 and L3 causes blinding trachoma

d. Serotype D-K causes follicular conjunctivitis

Ans: a._____**; b**_____**;c**_____**;d**_____

9. Regarding Mycobacterium leprae

a. Mycobacterium leprae is acid fast

b. Lepromatous leprosy is usually multibacillary in nature

c. Mycobacterium leprae grows on Lowenstein-Jensen media in 2-3 weeks

d. Pathogen specific cell mediated immunity is maximum in lepromatous leprosy

Ans: a._____; **b**_____;**c**_____;**d**_____

10. Regarding the outer membrane of Gram-negative bacilli

a. Lipid A induces inflammatory response

b. It can cause intravascular coagulopathy

c. It is responsible for exotoxin activity

d. Core polysaccharide determines O antigen specificity

Ans: a._____; **b**_____;**c**_____;**d**_____

11. Regarding Treponema pallidum

a. Is the causative agent of Syphillis

b. The infection can be transmitted from mother to fetus

c. VDRL test is a pathogen specific test

d. Can be demonstrated by silver staining method

Ans: a._____; **b**_____;**c**_____;**d**_____

(4X2=

5. Match t

Match type

12. Match the following bacteria with their corresponding properties/reaction

1. Bacillus anthracis	a) Stormy clot reaction
2. Vibrio parahemolyticus	b) Fried egg appearance
3. Clostridium perfringens	c) Kanagawa phenomenon
4. Mycoplasma pneumoniae	d) Mc Faydean reaction
	e) Weil-Felix reaction

1._____;2._____; 3._____; 4._____

13. Match the stages of bacterial growth curve with the status of bacterial cell proliferation

1. Lag phase	a) Both total and viable bacterial count increases
2. Log phase	b) Bacteria increase in size
3. Stationary phase	c) Both total and viable bacterial count decreases
4. Decline phase	d) Total bacterial count remains same but viable count decreases
	e) Total bacterial count increases but viable count remain same

1._____;2._____; 3._____; 4._____

14. Match the components of innate immunity with their specific properties

1. Toll like receptor	a) Antigen presentation
2. NK cells	b) Phagocytosis
3. C reactive protein	c) Kills virus infected cells
4. Dendritic cells	d) Acute phase protein
	e) Binds pathogen associated molecular pattern

1._____;2._____; 3._____; 4._____

Match the antigen antibody reaction with their corresponding examples

1. Slide flocculation	a) Widal test
2. Tube agglutination	b) Nagler reaction
3. Neutralisation test	c) Lancefield technique for Streptococcal grouping
4. Ring precipitation	d) VDRL test
	e) Wassermann test

1._____;2._____; 3._____; 4._____

ASSERTION-REASON TYPE **(2×1=2)**

Each question given below consists of two paired statements. Statement a –(assertion) & statement b- (Reason) connected by the term "because". Mark the appropriate answer using the key given below.

A- If both assertion & reason are true statements and the reason is the correct explanation of the assertion

B- If both assertion & reason are true statements and the reason is NOT the correct explanation of the assertion

C- If the assertion is true and the reason is false

D- If both assertion and reason are false

16. Regarding capsular polysaccharide vaccines:

Assertion- Protein conjugated polysaccharide are preferred as vaccines rather than only capsular polysaccharide

Reason- Capsular polysaccharide alone are not good immunogen by themselves

Ans:_____

17. Regarding diagnosis of intra uterine infection

Assertion- Presence of IgG antibody in new born indicates intrauterine infection

Reason- IgG antibody does not cross placenta

Ans:_____

******The End******

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Final Examination 2019 (Old batch)

Time: 3 Hrs | Microbiology (Paper–II) | Max. Marks: 75

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'

SECTION – A

1. Enumerate the parasites detected in peripheral blood. Discuss the lab diagnosis of malaria. Write the differences in peripheral smear picture between *Plasmodium vivax* and *Plasmodium falciparum*. **(2+4+4=10)**

2. Draw a labelled schematic diagram of structure of Human immunodeficiency virus (HIV). Discuss the modes of transmission and various methods of laboratory diagnosis of HIV infection. **(2.5+2.5+5=10)**

SECTION – B

3. **Write short answers:** **(6x5=30)**
   a. Cryptococcal meningitis
   b. Dermatophytes
   c. Live Polio vaccine
   d. Cysticercosis
   e. Viral inclusion bodies
   f. Pyogenic meningitis

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2019 (Old batch)
Microbiology (Paper–II)

Multiple choice questions **Total Marks - 25** **Time: 30 minutes**

SECTION – C

Single response type

Please (✓) on appropriate answer **(5×1=5)**

1. Which of the following the infective form of visceral leishmaniasis?
   - **a.** Amastigote
   - **b.** Promastigote
   - **c.** Trophozoite
   - **d.** Tachyzoite

2. Which of the following is the vector of Chikungunya virus infection?
   - **a.** Sand fly
   - **b.** Aedes mosquito
   - **c.** Culex mosquito
   - **d.** Tick

3. Which of the following fungus does NOT affect nail?
   - **a.** Epidermophyton
   - **b.** Microsporon
   - **c.** Trichophyton
   - **d.** Candida albicans

4. Which of the following virus is a DNA virus?
   - **a.** Influenza virus
   - **b.** Human metapneumovirus
   - **c.** Human immunodeficiency virus
   - **d.** Hepadna virus

5. Cryptosporidium oocysts are best detected by which of the following stain
   - **a.** Gram stain
   - **b.** Giemsa stain
   - **c.** Modified acid fast stain
   - **d.** Periodic Acid Schiff stain

(2x1

10. Re

Multiple Completion Type

Each of the following questions/statements has one or more correct response(s).

Answer using the following key:

A. Only 1,2 and 3 are correct
B. Only 1 and 3 are correct
C. Only 2 and 4 are correct
D. Only 4 is correct
E. All 4 are correct

6. The following is/are true regarding Plasmodium infection
    1. Multiple ring form is seen in *Plasmodium vivax* infection
    2. RBC size is usually enlarged in *Plasmodium vivax*
    3. Crescentic gametocyte is a feature of *P.vivax*
    4. Relapse often occurs in vivax malaria

Ans:_____

7. Following/s is/are true regarding dermatophytes
    1. They are moulds
    2. They are thermally dimorphic fungi
    3. Epidermophyton is a dermatophyte
    4. They infect only subcutaneous tissues

Ans:_____

True False Type

(4x2=8)

8. The following statement/s is/are true regarding *Ascaris lumbricoides*
    a. Eggs are plano-convex shaped
    b. Embryonated egg is the infective stage
    c. Skin penetration is the mode of infection
    d. Egg is bile stained

Ans: a._____**; b**_____**;c**_____**;d**_____

9. Regarding *Pneumocystis jerovecii*
    a. It is presently classified as protozoa.
    b. Causes pneumonia in HIV positive patients
    c. Gomori methanamine silver stain (GMS) is used for direct demonstration of cysts in clinical samples.
    d. Amphotericin B is the treatment of choice.

Ans: a._____**; b**_____**;c**_____**;d**_____

onse(s). (2x1=2)

10. Regarding diagnosis of viral infections

a. Samples for virus isolation should be transported in ice
b. Swabs should be transported in viral transport media
c. Viral load monitoring is important in patients with anti-retroviral therapy
d. Nasopharyngeal aspirate is a preferred sample in respiratory viral infections

Ans: a._____; **b**_____;**c**_____;**d**_____

11. Regarding histoplasmosis

a. Caused by dimorphic fungus Histoplasma capsulatum
b. Infection is acquired by thorn prick
c. Histoplasmosis is an intracellular infection of the reticuloendothelial system
d. Clinical manifestation may resemble pulmonary tuberculosis in some cases

Ans: a._____; **b**_____;**c**_____;**d**_____

Match type

(4×2=8)

12. Match the following fungi with their clinical manifestation

1. Cryptococcus	a) Nail infection
2. Sporothrix schenkii	b) Pneumonia
3. Malassezia furfur	c) Meningitis
4. Trichophyton	d) Cutaneous nodules
	e) Depigmented skin patch

1._____;**2.**_____; **3.**_____; **4.**_____

13. Match the following parasites with their mode of infection

1. *Plasmodium vivax*	a) Skin penetration of larva
2. *Ancylostoma duodenale*	b) Bite of infected culex mosquito
3. *Ascaris lumbricoides*	c) Tick bite
4. *Babesia microti*	d) Ingestion of embryonated egg
	e) Bite of infected anopheles mosquito

1._____;**2.**_____; **3.**_____; **4.**_____

14. Match the following viruses with their most appropriate clinical manifes

1. Epstein-Barr virus	a) Fever with parotid gland swelling
2. Mumps virus	b) Encephalitis with hydrophobia
3. Rabies virus	c) Infectious mononucleosis
4. Zika virus	d) Microcephaly
	e) Exanthematous febrile illness

1._____;2._____; 3._____; 4._____

15. Match the following virus with their corresponding malignant condition caused

1. Human papilloma virus	a) Kaposi's sarcoma
2. Epstein-Barr virus	b) Cervical carcinoma
3. Hepatitis C virus	c) Burkitt's lymphoma
4. Human herpes virus 8	d) Hepatocellular carcinoma
	e) Gastric carcinoma

1._____;2._____; 3._____; 4._____

ASSERTION-REASON TYPE (2×1=2)

Each question given below consists of two paired statements. Statement a –(assertion) & statement b- (Reason) connected by the term "because". Mark the appropriate answer using the key given below.

A- If both assertion & reason are true statements and the reason is the correct explanation of the assertion

B- If both assertion & reason are true statements and the reason is NOT the correct explanation of the assertion

C- If the assertion is true and the reason is false

D- If both assertion and reason are false

16. Regarding Polio vaccine

Assertion: Live polio vaccine works by inhibiting replication of Polio virus in the intestinal tract

Reason: Polio virus initially replicate in epithelial cells of intestinal tract

Ans:_____

17. Regarding Occult filariasis

Assertion: Wuchereria bancrofti infection may cause occult filariasis

Reason: It is due to the hypersensitivity reaction to microfilarial antigens

Ans:_____

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2019 (Batch 2017)
Time: 3 Hrs **Microbiology (Paper–I)** **Max. Marks: 100**

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'

SECTION - A

1.Read the clinical history and answer the following:

A 9-year child was admitted in paediatric ward having fever for one day. He also has vomiting and neck rigidity. History reveals such cases are there surrounding his residence in his village. The CSF of the patient is turbid.

Answer the following: **(1+2+2+4+1=10)**

a) What are the probable diagnosis and causative agents?
b) What are the clinical materials are collected from the patient to conclude the diagnosis?
c) What is the pathogenesis of the disease?
d) Describe the laboratory diagnosis.
e) What are prophylactic measures for the disease?

2. Short answer questions: **(8X5 =40)**

a) Contribution of Louis Pasteur to microbiology.
b) Gaseous sterilization,
c) Bacterial flagella.
d) Selective culture media.
e) Difference between active and passive immunity.
f) Type IV hypersensitivity.
g) Passive agglutination test.
h) Monoclonal antibody.

(P. T. O)

SECTION-B

1. Read the clinical history and answer the following:

A 25 year sexually active man with history of multiple sexual partner presented with painful burning sensation during micturition and increased frequency and passage of white purulent material before passing urine.

(1+2+2+4+1=10)

Answer the following:

a) What are the probable diagnosis and causative agents?
b) What are the clinical materials and method of collection to conclude the diagnosis?
c) What is the pathogenesis of the disease?
d) Describe the laboratory diagnosis.
e) What antibiotics are prescribed for treating such case?

2. Short answer questions: **(8 X 5 =40)**

a) Q fever
b) Biomedical waste disposal
c) Culture characters of Vibrio cholera on different culture media,
d) Type III hypersensitivity
e) Non tubercular mycobacteria (NTM)
f) Scrub typhus.
g) Hospital acquired infection.
h) Presumptive Coliform Count in drinking water.

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Final Examination 2019 (Batch 2017)

Time: 3 Hrs **Microbiology (Paper–II)** **Max. Marks: 100**

Instructions: Answer all the questions. Draw neat labelled diagram wherever necessary. The subparts of a question must be answered together. Use separate answer sheets for Section 'A' & 'B'

SECTION A

1. Draw a schematic labelled diagram of HIV and describe its morphology. Enumerate the modes of transmission of HIV. Describe the pathogenesis and the laboratory diagnosis HIV infection. **(2+2+2+4=10)**

(8 X 5 =40)

2. Short answer questions
   a) Bacteriophage
   b) Antigenic variation in Influenza virus
   c) Prions
   d) Prophylaxis against HPV
   e) KFD
   f) Virus multiplication
   g) Virus transport medium
   h) Zika virus

SECTION B

1. Name the agents causing Malaria. Describe the transmission, pathogenesis and complications of malaria. Briefly write on the laboratory diagnosis of malaria. **(1+1+2+2+4=10)**

(8 X 5 =40)

2. Short answer questions
   a) Dermatophytes
   b) Opportunistic mycosis
   c) Mycotoxicosis
   d) Larva migrans
   e) Life cycle of *Taenia solium*
   f) Occult filariasis
   g) Congenital toxoplasmosis
   h) Keratomycosis

****

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Supplementary Examination 2018

Time: 3 Hrs **Microbiology (Paper–II)** **Max. Marks: 75**

Answer all the questions. Draw the diagrams wherever necessary. Use separate answer sheet for Section A & B.

Section – A

Q1. Discuss aetiology, pathogenesis and laboratory diagnosis of Kalazar.

(1+3+6=10)

Q2. Describe the morphological classification of Fungi. How do we classify fungal infections in humans. Describe the pathogenesis and laboratory diagnosis of eumycotic mycetoma.

(3+2+5=10)

Section – B

Q3. Write Short Answers: **(6x5=30)**

(a) Cultivation of viruses in embryonated egg

(b) Prion diseases

(c) Pathogenicity of Aspergillus species

(d) Inclusion bodies

(e) Immunoprophylaxis of rabies

(f) Occult filariasis

*****

35

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Supplementary Examination 2018

Time: 3 Hrs **Microbiology MCQ (Paper – II)** **Max. Marks: 75**
Time : 30 mts. (MCQ) **MCQ: 25 Marks**

Section – C

Single Response Type: (Please (✓) on appropriate answer) **(1x5=5)**

1. **SARS is caused by :**
   a. Filo virus
   b. Corona virus
   c. Parvo virus
   d. Polio virus

2. **HIV is not transmitted by**
   a. Through blood products
   b. Needle stick injury
   c. Shaking hands
   d. Sexual contact

3. **All of the following are filamentous fungi except**
   a. Aspergillus
   b. Penicillium
   c. Candida
   d. Microsporon

4. **Germ tube test is used to identify**
   a. *Candida tropicalis*
   b. *Candida albicans*
   c. *Cryptococcus neoformans*
   d. *Geotrichum candidum*

5. **Following viruses have oncogenic potential except:**
   a. Adeno virus
   b. Epstein Barr virus
   c. Hepatitis B virus
   d. Human papilloma virus

Roll No. AIIMS BBSR-2015/2014/2013/MBBS/_____

(1x2=

Regarding

Multiple Completion Type

Each of the following questions/statements has one or more correct response(
Answer using the following key:

A. Only 1,2 and 3 are correct
B. Only 1 and 3 are correct
C. Only 2 and 4 are correct
D. Only 4 is correct
E. All 4 are correct

6. Following viruses can infect the foetus transplacentally :

1. Herpes simplex virus
2. Influenza virus
3. Rubella virus
4. Polio virus

Ans. _____

7. True regarding HIV

1. Enveloped virus
2. Reverse Transcriptase enzyme present
3. Thermostable virus
4. Transmission from mother to child occur

Ans. _____

True False Type **(Write 'T' for True & 'F' for False)** **(2x4=8)**

8. Regarding *Dermatophytes*

1. They infect keratinised tissues
2. They are yeast like fungi morphologically
3. They produce lesions which are called as ring worm
3. They are sensitive to Cycloheximide

Ans : 1._____ 2. _____ 3._____ 4._____

9. Regarding viruses

1. Viruses are obligate intracellular parasites
2. They are sensitive to interferons
3. They contain both DNA and RNA
4. Viral load is important to monitor the treatment response

Ans 1. _____ 2._____ 3._____ 4._____

10. Regarding oncogenic viruses

1. Molluscum contagiosum is a pox virus
2. Cancer cervix is associated with HPV
3. Most oncogenic retroviruses are endogenous retroviruses
4. EB virus causes nasopharyngeal carcinoma

Ans. 1._____ 2._____ 3._____ 4._____

11. Regarding Parasitic Helminths

1. *T. saginata, T. solium* are cestodes
2. *Fasciolopsis buski* is a nematode
3. *H. nana* is a dog tape worm
4. Eosinophilia is a cordinal feature of tissue infection by parasitic helminths

Ans. 1._____ 2._____ 3._____ 4._____

Match Type **(2x4=8)**

12. Match the following viruses with the typical microscopic picture

1. Herpes simplex virus	**a.** Cell to cell fusion
2. Respiratory syncytial virus	**b.** Negri bodies
3. Rabies virus	**c.** Peripheral blood mononucleosis
4. Epstein Barr virus	**d.** Tzanck cells

Ans . 1._____ 2._____ 3._____ 4._____

13. Match the parasites with their clinical manifestations

1. *Babesia microti*	A- Urethral pain
2. *Schistosoma haematobium*	B- Hydatid cyst
3. *Onchourca volvulus*	C- Haemolytic anaemia
4. *E. Granulosus*	D- Visual loss

Ans . 1._____ 2._____ 3._____ 4._____

14. Match the following fungi with the specific features

1. Microsporum
2. Sporotrichosis
3. Histoplasma
4. Candida albicons

A. Intracellular in RE cells
B. Germ tube
C. Macroconidia
D. asteroid body

Ans. 1._____ 2._____ 3._____ 4. _____

15. Match the clinical presentations/disease to the corresponding parasites

1. Intestinal obstruction
2. Black water fever
3. River blindness
4. Romana's sign

A. *Trypanosoma cruzi*
B. *Onchocerca volvulus*
C. *Ascaris lumbricoides*
D. *Plasmodium falciparum*
E. *Leishmania donovani*

Ans. 1._____ 2._____ 3._____ 4. _____

(1x2=2)

Assertion-Reason type

Each question given below consists of two paired statements. Statement a – (assertion) & statement b – (Reason) connected by the term "because". Mark the appropriate answer using the key given below.

A- If both assertion & reason are true statements and the reason is the correct explanation of the assertion
B- If both assertion & reason are true statements and the reason is NOT the correct explanation of the assertion
C- If the assertion is true and the reason is false
D- If both assertion and reason are false

16. Regarding HIV infection

Assertion: The major core antigen (P_{24}) is tested for early diagnosis of HIV infection

Reason : P_{24} antigen is the earliest viral marker to appear in blood

Ans. _____

17. Regarding diagnosis of amoebic dysentery

Assertion: Detection of cysts of *Entamoeba histolytica* in the faeces is diagnostic because

Reason : Trophozoites of Entamoeba histolytica are not excreted in faeces.

Ans. _____

***** The End *****

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Supplementary Examination 2018

Time: 3 Hrs | Microbiology (Paper–I) | Max. Marks: 75

Answer all the questions. Draw the diagrams wherever necessary. Use separate answer sheet for Section A & B.

Section – A

Q1. Enumerate four bacterial agents of diarrhoea. Describe the collection of specimen, transportation and laboratory diagnosis of cholera.

(2+8=10)

Q2. Classify Hypersensitivity reactions. Discuss the mechanism and different forms of Type I hypersensitivity with examples

(2+4+2+2=10)

Section – B

Q3. Write Short Answers: **(6x5=30)**

(a) Bacterial cell wall

(b) IMViC test

(c) Atypical Mycobacteria

(d) Widal test

(e) Differences between live caccine and killed vaccine

(f) Scrub typhus

*****

38

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Supplementary Examination 2018

Time: 3 Hrs **Microbiology MCQ (Paper – I)** **Max. Marks: 75**

Time : 30 mts. (MCQ) **MCQ: 25 Marks**

Section – C

Single Response Type: **(Please (✓) on appropriate answer)** **(1x5=5)**

1. India ink preparation is helpful for

a. Cell wall

b. Fimbria

c. Capsule

d. Flagella

2. Which of the following biochemical test is useful identification of Staphylococcus aureus?

a. Oxidase test

b. Inulin test

c. Coagulase test

d. Bile solubility test

3. Electron microscope was invented :

a. Antony van Leeuwenhoek

b. Ernst Ruska

c. Paul Ehrlich

d. Karl Landsteiner

4. Chancroid is caused by :

a. *Haemophylus ducreyi*

b. *Treponema pallidum*

c. *Chlamydia trachomatis*

d. *Mycoplasma pneumonae*

5. All of the following are zoonotic disease except

a. Brucellosis

b. Q fever

c. Gonorrohoea

d. Leptospirosis

Roll No : AIIMS BBSR-2015/2014/2013/MBBS/_____

Multiple Completion Type
Each of the following questions/statements has one or more correct response(s). Answer using the following key:

A. Only 1,2 and 3 are correct
B. Only 1 and 3 are correct
C. Only 2 and 4 are correct
D. Only 4 is correct
E. All 4 are correct

6. The standard tests of Syphilis include

1. VDRL
2. TPI
3. RPR
4. TPHA

Ans. _____

7. Regarding diarrheagenic Escherichia coli

1. Enteropathogenic *E.coli* (EPEC) is mainly associated with diarrhea in infants
2. Traveller's diarrhea is associated with Enterohemorrhagic *E. Coli* (EHEC)
3. Verocytotoxin is produced by Enterohemorrhagic *E.coli* (EHEC)
4. Sereny test is used in diagnosis of Enteroaggregative *E. coli* (EAEC)

Ans. _____

True False Type **(Write 'T' for True & 'F' for False)** **(2x4=8)**

8. Regarding Immunoglobulins

1. IgA is the most abundant immunoglobulin in the serum
2. IgG can pass through placenta
3. IgE is the heaviest immunoglobulin
4. Immunoglobulins are secreted by B cells

Ans 1. _____ 2._____ 3._____ 4._____

9. The following bacteria show swarming motility

1. *Bacillus anthracis*
2. *Proteus mirabilis*
3. *Clostridium tetani*
4. *Salmonella Typhi*

Ans 1. _____ 2._____ 3._____ 4._____

10. Regarding enteric fever

1. *Salmonella typhi* is the causative agent
2. Highest sensitivity of blood culture is during third week of illness
3. Widal test detects antibody
4. No vaccine is available

Ans. 1._____ 2. _____ 3. _____ 4. _____

37

11. Regarding *Pseudomonas aeruginosa*

1. It is gram positive bacilli
2. Important pathogen of hospital acquired infections
3. Commonly associated with respiratory infections in cystic fibrosis patients
4. Intrinsically resistant to many commonly used antimicrobials

Ans 1. _____ 2._____ 3._____ 4._____

Match Type **(2x4=8)**

12. Match the following bacteria with their appropriate virulence factor:

1. Pneumococcus	A. Filamentous Haemagglutinin
2. *Vibrio cholera*	B. Capsular polysaccharide
3. *Bordetella pertussis*	C. Alpha Toxin
4. *Clostridium perfringens*	D. Enterotoxin

Ans 1. _____ 2._____ 3._____ 4._____

13. Match the following bacteria/bacterial diseases with the appropriate diagnostic tests

1. Enteric Fever	A. Widal test
2. *Streptococcus agalactiae*	B. Nagler Reaction
3. *Helicobacter pylori*	C. CAMP test
4. *Clostridium perfringens*	D. Urea breathe test

Ans 1. _____ 2._____ 3._____ 4._____

14. Match the following stains with the bacterial cell components

1. *India ink*	A. Cell wall
2. *Acid fast stain*	B. Capsule
3. *Silver impregnation method*	C. Flagella
4. *Albert stain*	D. Mycolic acid
	E. Metachromatic granules

Ans . 1._____ 2._____ 3._____ 4._____

15. Match the items with the type of sterilization/disinfection :

1. Disposable Syringe	A. Inspissation
2. Endoscope	B. Fumigation
3. Glassware	C. Hot air oven
4. Operation theatre	D. Glutaraldehyde
	E. Gamma radiation

Ans. 1._____ 2._____ 3._____ 4. _____

Assertion-Reason type

Each question given below consists of two paired statements. Statement a (assertion) & statement b – (Reason) connected by the term "because". Mark the appropriate answer using the key given below.

A- If both assertion & reason are true statements and the reason is the correct explanation of the assertion
B- If both assertion & reason are true statements and the reason is NOT the correct explanation of the assertion
C- If the assertion is true and the reason is false
D- If both assertion and reason are false

16. Regarding Streptokinase

Assertion - Streptokinase is used for treatment of early myocardial infarction
Reason - Streptokinase promotes fibrinolysis by activating plasminogen

Ans. _____

17. Regarding Klebsiella growth on Maconkey agar

Assertion - *Klebsiella pneumoniae* produces mucoid colonies because

Reason - It lowers the pH of the medium by fermenting the lactose in maconkey agar

Ans. _____

***** The End *****

49

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Final Examination 2018

Time: 3 Hrs | Microbiology (Paper–II) | Max. Marks: 75

Answer all the questions. Draw the diagrams wherever necessary. Use separate answer sheet for Section A & B.

Section – A

Q1. Enumerate the nematodes causing diseases in humans. Describe the morphology and life cycle of *Ascaris lumbricoides*.

(2+4+4=10)

Q2. Draw a labelled diagram of Human immunodeficiency virus (HIV). Discuss the modes of transmission and laboratory diagnosis of HIV infection. **(2+2+6=10)**

Section – B

Q3. Write Short Answers: **(6x5=30)**

(a) *Candida albicans*

(b) *Toxoplasma gondii*

(c) *Pneumocystis jirovecii*

(d) Laboratory diagnosis of rabies

(e) *Histoplasma capsulatum*

(f) Laboratory diagnosis of Kala-azar

*****