

patho

Test 2020 vs 2019



Department of Pathology
Azra Naheed Medical College
Sent up 2018
MBBS 3rd Year (SEQ)

Time Allowed: 2 hour

Total Marks: 75

Name: Abdul Hafiz
Roll No: F15-030
Date: _____

Instructions:

- All subjective questions are to be attempted on the paper and returned to the invigilator within specified time after you have received the question paper.
- Neat hand writing and use of margins will increase the outlook and presentation of your paper.

Attempt all Questions. Each Question carries 5 marks

- Draw and label the bacterial growth curve. 3
 - Name the mechanisms of transfer of bacterial genetic material? 2
- A 54-year-old patient presents with a persistent cough, hemoptysis, and weight loss. A sputum sample is collected that has a positive acid-fast stain.

 - What is your diagnosis? 1 Mycobacterium tuberculosis
 - Give its pathogenesis. 4
- Several students of a primary school in a village fell ill. All of them were admitted to local hospital following vomiting and diarrhea. Purging was effortless and the feces were of fishy smell and rice-water.

 - What is your diagnosis? 1 Vibrio cholerae
 - What is its mode of transmission? 1 fecal-oral route
 - What is the pathogenesis of it? 3
- A 3-year-old girl was brought to the emergency room by her parents because of fever and loss of appetite for the past 24hrs and difficulty in arousing her for the past 2 hours. Her temperature was 39.5°C, pulse 130/min, and respiration 24/min. Blood pressure was 110/60mmhg. Blood was obtained for culture and other laboratory tests. Lumbar puncture was performed in less than 30 minutes after the patient arrived in the emergency room. The CSF aspirated was cloudy. Gram staining showed numerous polymorphonuclear cells along with gram negative diplococci.

General Bacteriology 25
25

Special Bacteriology

- Name the disease & the causative agent. (1) disease is the meningitis and causative agent is Neisseria meningitidis.
- What are the differences in the CSF of viral, bacterial and tuberculous meningitis? (2)
- Name one organism each causing meningitis in following age groups:
 - Neonates → Escherichia coli, Listeria monocytogenes, streptococcus
 - children and Adults (1) → Streptococcus pneumoniae, Haemophilus influenzae
- Enumerate two differences between gonococci and meningococci. (1)

Species	Postlabventory	Peptidoglycan	Motile	Pathogenesis
<u>Neisseria meningitidis</u> (Meningococci)	<u>Respiratory tract.</u>	<u>Capule +ve</u>	<u>+ve</u>	<u>Aspigeno Booklen virus</u>
<u>Neisseria gonorrhoea</u> (Gonococci)	<u>Genital tract</u>	<u>-ve</u>	<u>-ve</u>	<u>-ve</u>

HASAG	Anti Hbs	Hbci Hbc	
+	-	-	acute
+	+	+	acute or chronic
-	+	+	previously HBV infection
-	-	+	window period
-	-	-	no HBV infection

5. A 40 years old man complaint of fever, vomiting, anorexia and deep yellow coloured urine. The blood examination revealed high levels of SGOT, SGPT & alkaline phosphatase, the direct bilirubin is also high.

- Name the viruses causing hepatitis (1) **HEP A, B, C, D, E**
- How can you confirm the type viral infection by serologies (3) **(Virology)**

The condition occurring in the severe cases of hepatitis is called as **jaundice**.
 6. a. Define septic shock. (2) **Septic shock is a life-threatening condition caused by infection.**
 b. Explain the patho-physiology of shock. (3)

- Name the tapeworms. 2 **Echinococcus granulosus, Taenia saginata, Dipyllobothrium latum**
- Describe the life cycle, laboratory diagnosis of Echinococcus granulosus. 3 **(1) MRI, (2) CT scan of the thorax and abdominal cavity, (3) Serological examination, (4) Radiological examination, (5) Coproscopical study.**

8. A 65 year old women attends the hospital with breast lump for the last 6 months and pain in right hypochondrium for 10 days. She is diagnosed as carcinoma breast with metastasis to the liver.

- Give the flowchart of the steps involved in haematogenous spread of tumor (3) **(Neoplasia)**
- Name the various types of carcinogenic agents (2) **(2) 17 key to VHS**

9. A 40 year old obese looking man who is a chain smoker, comes to the hospital with a history of chronic cough and weakness. On investigation, he is diagnosed to have carcinoma lung.

- What do you understand by paraneoplastic syndrome? Give its examples. (3) **(Neoplasia)**
- Name the various laboratory diagnostic procedures for neoplasia. **(1) 12 key to VHS**

10. A 40 year old female gives birth to a child with flat facial profile, epicanthic folds. He grew up to be a mentally retarded child.

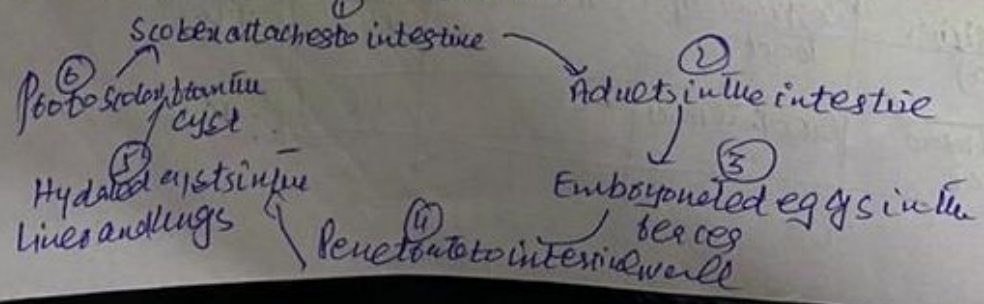
- What is the expected underlying chromosomal abnormality in this child? (2) **Down syndrome**
- Describe the mechanism of development of this genetic abnormality? (3) **(Genetics)**

11. A 50 year old woman had fracture of her femur. After 1 month, closed reduction was done. What are the factors which lead to non-healing of the fracture? **(5)**

12. Define and classify gangrene necrosis. Give description with examples of each type. (5) **Doubtful question**

13. A 25 year old male developed a red hot fluctuant swelling on the upper arm after receiving an intramuscular injection at that side. The cause of fluctuant swelling was local fluid exudate formation. Describe the mechanism of this exudates formation. (5)

07 (b) life cycle of *Echinococcus granulosus*.



14. A five year old girl is brought to the emergency with severe respiratory difficulty and wheeze, half an hour after intake of fish. There is history of similar episodes in the past.

- a. Name the type of hypersensitivity reaction involved. (1) Type I hypersensitivity
- b. Name two preformed and two newly synthesized mediators of mast cells and their actions. (4)

15. A 62 years age smoker have severe arthritis and on immunosuppressive therapy, lung biopsy shows septate hyphae that form v shaped branches, agar shows conidia with spores in radiating column

- a. What is the diagnosis (1) Aspergillus
- b. Mode of transmission (1)
- c. Pathogenesis (3)

Preformed mediators

Histamine
Gastric acid secretion
Flows of soluble
chemotaxis
Newly formed

Leukotrin
Control appetite
control of the vomiting
Pain perception

Newly formed mediators

Prostaglandins
Leukotrienes

vesicle permeability of the
histamine another
body tissue
mediators of the leukocyte
adhesion

5:1 YPAI 11/11/19
 8.7 29 26/36 to 43
 2,3,4,3,8,4,3 7,3,4,1,2



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 MBBS 3rd Year (SEQ)

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1. A young male presented with severe cramping abdominal pain, fever and passage of scanty stool containing blood and mucus. A parasitic infection suspected. *E. histolytica, Amoeba*

- What are the most probable diseases and the organism? What are the extra intestinal manifestations of the parasite? (2) *Amoeba, Bacteria, Lung, Liver, Skin*
- Draw the ova and trophozoite form of the parasite. (1)
- Draw the life cycle of Plasmodium falciparum. (2)

Parasite

A 10 years old boy is brought to pediatrician with complaints of weakness, fever, malaise and passing of low quantity of brownish urine. The urine microscopic examination was positive for RBC casts probably having glomerulonephritis. Mother gives history of child having a severe attack of cellulitis 2-3 weeks back. On culture the organism was Beta hemolytic gram positive streptococcus.

- Name the causative agent and disease. (1)
- What is the mechanism of the disease? (1)
- Give its laboratory diagnosis. (3)

Stop Bact

Bacitracin

A 42-year old chronic smoker presented with a history of productive cough, night sweats, and low grade fever and weight loss for the last 3 months. Chest X-ray reveals opacity in the upper zone of the left lung. Biopsy revealed granulomas. TB

- What are the most likely causative agent & the disease? (0.5)
- Name the special staining technique used for the diagnosis. (0.5)
- What is the pathogenesis of disease? (2)
- Discuss the laboratory diagnosis. (2)

Bacteria

Granule

F. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

ie

56

4. A 2-year-old boy who recently started attending preschool and after-school daycare is brought to his pediatrician for a diarrheal illness characterized by fever to 38.2°C, severe lower abdominal pain, and initially watery diarrhea followed by blood tinged stools after 24 hours. The mother reports that two other children who attend the same after-school daycare have recently had diarrheal disease. The organism appeared to be lactose fermenter after culturing.

*Bruce
HUS*

- a) Name the likely pathogen and the disease. (0.5)
- b) Name strains of this bacterium and which strain is causing the disease? (1)
- c) Give the pathogenesis of the disease. (2)
- d) How will you proceed with laboratory of this organism? (1.5)

5. A Foley's catheter tip sample of a chronically debilitated patient was received in the microbiology laboratory for culturing.

- a) What is the method used for sterilization of disposable Foley's catheters and other disposable single use items in the hospitals? (0.5) *gamma Interferon*
- b) What is autoclaving and its principle? (1)
- c) Draw and compare the cell wall of Gram positive and Gram negative bacteria. (2)
- d) What is the genito-urinary flora before and after puberty and its significance? (1.5)

copu

Cell Imp

*41 (5)
42
43
44
45
46
47
48
49
50*

- 6) Define necrosis. Describe the types of necrosis with one example each. (2.5)
- 7) Define metaplasia. What is its mechanism? Give examples. (2.5)

- 8) What is healing by first intention? (1)
- 9) Tabulate the differences between healing by primary intention and secondary intention. (2)
- 10) What are the factors affecting wound healing. (2)

ph of chngkt

11. A 33 year old female presented to the outpatient department with symptoms of butterfly rash, photosensitivity and joint pains for the last 6 months. Labs showed anemia and thrombocytopenia.

- a) What is the most probable immunological diagnosis? (0.5)
- b) What are the auto-antibodies of this disease? (0.5) *IgG*
- c) Name 4 auto-immune diseases with corresponding auto-antibody involved in it. (2)
- d) What is the normal defense mechanism of innate immune system of our body against an inciting antigen? (2) *476P*

12. A young boy accidental victim of honey bee sting. At the site of bite the skin become red, swollen edematous. This is because of vascular and cellular changes at the site of acute inflammation.

- a) Briefly discuss the sequence of cellular events involved at the site discussed in above scenario. (2)
- b) Draw and label the microscopic appearance of Granuloma. (1.5) *Neut/Leuk*
- c) Enlist leucocyte and endothelial adhesion molecules along with their ligands. (1.5) *cellul ent
vrouh at*

Seln - Saly - LEWIN

*Integrin → ICAM1
VCAM*

solved 2019 proff paper



THE SUPERIOR COLLEGE, LAHORE

3rd PROFESSIONAL MBBS

ANNUAL EXAMINATION 2019

PHYSIOLOGY

PHYSIOLOGY

Roll No. E16-078

Total Marks: 75

Time Allowed: 2 hours

Instructions

- The SEQ's part is to be submitted within 2 hours, Extra time will not be given.
- Neat Hand Writing use of margin and marker for headlines will increase the presentation of your paper.
- Do not write your name or disclose your identity in anyway.

Q-No: 1.

- TUMORS** (Inflammation) (3)
- a) Enumerate different stimuli of Acute Inflammation? 3
- b) How will you differentiate between transudate and exudate? 3

Q-No: 2. A 65 year old man developed low grade fever with productive cough and lymph node enlargement. His chest X-ray was normal and showed multiple opacities. Histological report of these lesions conferred features of chronic granulomatous inflammation with tuberculosis etiology.

- a) Enlist six causes of chronic granulomatous inflammation? 2
- b) What kind of hypersensitivity reaction has occurred in this patient? **TYPE IV** 2
- c) Give its pathogenesis. 1

Q-No: 3. A 35 year old male presented to the surgical emergency with large excisional wound on his left leg creating a large defect on skin surface.

- Healing time** (4)
- a) Name the type of healing in above condition. 1
- b) Name the factors that can influence the wound healing. 2
- c) Enlist four growth factors and cytokines affecting various steps in healing. 2

Q-No: 4. A 20 year old hockey player fractured his femur during a game. Over the next few days in hospital, he developed progressive respiratory problems and died 3 days later. On autopsy, old red-brown positive material is seen in the small blood vessels of the lungs and brain.

- fat embolus** (5)
- a) Which complication has occurred in him? Give its pathogenesis. 2
- b) Enumerate the three primary influences on thrombus formation and name this triad. 3

Genetics

Q-No: 5. A 40 year old female gave birth to a child with flat facial profile oblique palpebral fissures, and epicanthic folds. He grew into a mentally retarded child.

Down

- a) What is the expected underlying chromosomal abnormality in this child? 1
- b) Describe the mechanism of development of this genetic abnormality. 4

Q-No: 6. A 24 year old female with a history of heavy and painful menstrual period has been having difficulty conceiving despite months of trying to become pregnant. Her workup included a bimanual pelvic examination and an ultrasound, which demonstrated a massive uterus that was presumed to be a leiomyoma.

Neoplasm

Hemangioma lipoma

- a. Enlist any four Mesenchymal benign tumors other than leiomyomas? 2
- b. How would you grade a tumor? 3

Q-No: 7. A person develops rashes all over his body after being stung by a bee while handling a bee-hive to collect honey

Immunology

- a. Which type of hypersensitivity is this? 1
- b. What is the mechanism for type four hypersensitivity reactions? 4

Q-No: 8. By which method of sterilization we can sterilize the instruments and bed linen in the hospitals and operation theaters?

- a) What is its principle and procedure? 2
- b) Define the following: 3
 - i. Transposons
 - ii. Sterilization
 - iii. Spore and its medical implication

Autoclaving

Q-No: 9 A 22 years old male develops high-grade fever with persistent headache and constipation. Hepatosplenomegaly, lymphadenopathy and rose spots on the abdomen are observed in the second week of infection.

Special

Salmonella typhi

- a) Briefly discuss the pathogenesis of this infection. What can be the possible complication if this patient is left untreated? 3
- b) Name the gold standard laboratory test for diagnosis of this disease and reaction of its pathogen on TSI agar. 2

Q-No: 10. A 42-year old male presented with a history of productive cough, night sweats, low grade fever and weight loss for the last 3 months. Chest X-ray reveals opacity in the upper zone of the left lung. Histopathology reveals granulomas.

Special

TB

- a) What is the most likely causative agent and the disease? 2
- b) Name the special staining technique used for the diagnosis. 1
- c) Discuss the laboratory diagnosis of this case. 2

Ziehl-Neelsen staining

Tubes
Biochem
Leuciferase test
Gamma interferon assay

VPRL, RPR

Q-No: 11. A 25-year-old woman had a papular rash on her trunk, arms and palms with no itching. Vaginal examination revealed two flat, moist, slightly raised lesions on the labia. Specimen from a labial lesion was examined in a dark field microscope revealing spirochetes.

- a) What is the most likely diagnosis and the causative agent? 1
- b) Explain the term prozone phenomenon. 4
- c) Name the specific and non-specific tests for the diagnosis of the above mentioned case. 3

Treponema pallidum
FTA, AbD₂₄ (TPHA), MHA (PT)

Special
Bacterio
logy

Special

Q-No: 12. You are a physician at medical camp where an outbreak of diarrhea occurred. Patients complained of excessive frequency of watery stools, with no blood. Gram stain of stool show Gram negative curved rods.

- a) What is the most likely diagnosis? 1
- b) Briefly describe its pathogenesis? 3
- c) How it can be further confirmed in laboratory? 2

Vibrio

Q-No: 13. An HIV-Positive patient has progressed from fatigue, rash, nausea and night sweats symptoms to occasional but defined opportunistic infections.

- a) Enlist one opportunistic fungal infection, 1 viral infections and one malignancy associated with AIDS. 3
- b) What are types of HIV virus and what disease it causes? 4
- c) Tabulate the structural proteins and genes of HIV. 1

mycology

Q-No: 14. A 40 years old shepherd of sheep presents with upper right quadrant pain and appeared slightly jaundiced. A stool exam was negative for ova and parasites but a CT scan reveals a large 14 cm cyst that appears to contain fluid, in the right lobe of the liver.

- a) What is most likely diagnosis? Name the parasite responsible for this lesion. 1
- b) Draw and label its life cycle. 2
- c) Discuss lab diagnosis. 5

Parasitology

Q-No: 15. A female patient presented to OPD of a hospital. She had a white patch on her tongue which was thought to be a fungal disease.

- a) What is the patient suffering from? 5
- b) What are four approaches to lab diagnosis of fungal diseases? 4

Candida albica - thus

Parasitology
(Mycology)



Department of Pathology
 Jammu Medical College
 Grand Road 23 February 2019
 MBBS 5th Year (SBO)
 (Inflammation, Healing & Repair)

Time Allowed: 50 min

Total Marks: 25

cell functions → Repair waly is m h

SEQ

Proinflammatory

- i) Leukocyte adhesion to the endothelium
- ii) Leukocyte migration through the endothelium
- iii) Chemotaxis of leukocytes

Q.1

- a) What are the components of acute inflammation? Briefly discuss the steps involved in leucocytes recruitment. (3)
- b) Briefly discuss the outcome of acute inflammation. (2)

Q.2

- a) What are the principal mediators of inflammation? Briefly discuss from where they are derived with examples of each. (3)
- b) Enlist leucocyte and endothelial adhesion molecules along with their ligands. (2)

Q.3

A 45yr female belonging to low socioeconomic class presented to medical OPD the history of night sweats, low grade fever, loss of appetite and persistent cough sometimes with hemoptysis. Her CBC report revealed 73% lymphocytosis, with raised ESR. Chest X ray revealed cavitary lesion in mid zone of right lung. Microscopic examination of sputum revealed acid fast pink bacilli with beaded appearance. He was diagnosed as

- a) What will be the microscopic appearance of this lesion? (2)
- b) What is macrophage-lymphocyte cross talk? (2)
- c) Write short note on chemotaxis. (1)

Q.4

Describe the difference between healing by Primary Intention and Secondary Intention. (05)

Q.05

Following the Caesarian section, the Gynecologist applied non-absorbable surgical sutures to the incision.

- A. Trace the steps of healing in this patient in chronological order. (03)
- B. Give the brief account of systemic factors affecting the wound healing. (02)

- i) Infection
- ii) Diabetes
- iii) Nutritional status
- iv) Corticosteroids
- v) Poor perfusion
- vi) Type II diabetes mellitus
- vii) Fungal infection
- viii) Mechanical factors

4HS
10/138

Pathology

2019

Annual Examination

Q1

a) Stimuli for Acute Inflammation:- tissue

- * Infections
- * Trauma
- * Tissue necrosis
- * Foreign bodies
- * Immune reactions

TITTEA

- . Infection
- . Trauma
- . Tissue necrosis
- . Foreign bodies
- . Immune reaction

. Infection
. Tissue necrosis

b)

Exudate

- * High protein content
- * Contain cellular debris
- * High specific gravity

Transudate

- * Low protein content
- * No cellular material
- * Low specific gravity

High protein content
contain cellular debris
pH = 7.23
Specific gravity
Fibrinogen present
Neutrophils present

Fibrinogen present
Neutrophils present

not present
Macrophages present
oncotic pressure
osmotic pressure

Q2

a)

Six causes of Chronic Granulomatous inflammation:-

- * Persistent infection

Cause of Tubercular Infection - Hypersensitivity disease

- * Hypersensitivity disease
- * Prolonged exposure to toxic agents
- * Autoimmunity
- * Bacterial infection
 - Mycobacterium tuberculosis
 - " Leprosy
- * Fungal infection
 - Treponema Pallidum / Syphilis
 - unknown etiology
- * Parasitic infection
 - Gram -ve bacillus = Cat-scratch disease

b) Type IV hypersensitivity reaction or cell mediated or delayed hypersensitivity

c) Pathogenesis:-

- * Mediated by T-cell dependent effector mechanism
 - * Involve CD4 helper T cell & CD8 cytotoxic T cells
 - * CD4 T cells delayed hypersensitivity through macrophage activation and cytokine mediated inflammation
- Q3 CD8 sensitive cells kills the antigen bearing cells. T cell tonically through the direct cell lysis and the cytotoxic mediated activation

a) Healing by second intention.

ent of Pathology

u

b)
Factors affecting wound healing:-

- * Infection
- * Diabetes
- * Nutritional status
- * Foreign body
- * Glucocorticoids
- mechanical factors

c)
Four Growth Factors:-

- (EFGF)
- * Epidermal growth factor
 - * Platelet derived growth factor
 - * Fibroblast growth factor
 - * Transforming growth factor

platelet derived growth factor

epidermal growth factor

Cytokines:-

* TNF

* IL-1

fibroblast growth factor

macrophages

Q4

a) Complication:-

Pulmonary fat embolism

Pathogenesis:-

After fractures of long bone, fat is released by marrow and enter circulation after rupture of marrow vascular sinusoids. Through pulmonary vasculature leading to respiratory problems.

b)

Name Primary influences:-

* Endothelial injury

ETM)

* Turbulent blood flow

Endothelial injury

* Hypercoagulability

of blood

Turbulent blood flow

Hypercoagulability of blood

Triad:-

Virchow's Triad

Q5

a)

Down Syndrome

b)

Mechanism:-

→ In Down syndrome, there is additional copy of chromosome 21, resulting in three copies instead of normal two copies.

→ Genetic disorder caused when abnormal cell division results in extra full copy of chromosome 21.

Q6

a)

Enlist 4 Mesenchymal benign tumors other than leiomyomas?

- * Hemangioma
- * Lymphangioma
- * Lipoma
- * Medullary fibroma
- * Juxta-glomerular cell tumor

b)

How would you grade a tumor?

- * Grade 1 low
- * Grade 2 Intermediate
- * Grade 3 - High
- * Grade 4 Anaplastic

⇒ Grading system differs depending on type of cancer and variant of abnormality. Aggressiveness

Q7

a)

Type-1-hypersensitivity

b)

Mechanism for Hypersensitivity 4 reaction

→ Mediated by T cell dependent effector mechanism

⇒ Include CD4⁺ T cell and CD8⁺ Cytotoxic T cell

→ CD4⁺ T cells delayed hypersensitivity through macrophage activation and cytokine mediated inflammation.

Q8

a)

Angioclaving

Principle:

→ autoclaving:

Water boils at 100°C

Pressure (water) inside a container rises

The steam is thus formed and superheated

Superheated steam condense on cooler object & release thermal energy

It will lead to denaturation of microbes.

→ Procedure:

Temp → 121°C, pressure: 15 lb/inch²

Time: 15-20 minute

(b)

Define following:-

i) Transposons:

Pieces of DNA that move readily from one site to another either within or b/w the DNAs of bacteria. They are called jumping genes.

ii) Sterilization

Killing of all microorganisms either bacterial or viral spores called sterilization.

spore:

Keratin like coat having dipicolinic acid which a cell adapts in unfavourable condition is called a spore.

implication:

- i/ Highly resistant to heat.
- ii/ Highly resistant to chemicals.
- iii/ Exhibit no measurable activity.

Q9

Infection:-

a) *Salmonella typhi*

Pathogenesis of this infection:-

Invasives Payer's patches of intestinal wall
(macrophages)



Access to liver, spleen, gall bladder



First week: elevation of body temperature



Second week: Rose spots



Third week: Necrosis

Complication:-

- * Enterocolitis
- * Typhoid fever
- * Septicemia

TES

b)

Lab test

Widal test

↓
If homologous antibody is present in patient's serum

↓
It will react with antigen

↓
Gives clumping on test and agglutination in the tube.

Q10

a)

Causative agent:-

Mycobacterium tuberculosis

Disease:-

Secondary tuberculosis

b)

Staining Technique

Z N staining (Acid fast staining)

showing long slender red
colour rods

c)

Lab diagnosis:-

* Biochemical test

* Tuberculin skin test

Leucine test
Gamma interferon release assay)

Q11

a) Causative agent:-

Treponema Pallidum

Diagnosis:-

Syphilis

b)

Prozone phenomenon:-

* False negative response resulting from high antibody titer which interfere with formation of antigen-antibody lattice, necessary to visualize positive flocculation test

c)

Specific Test :-

* (FTA-ABS)²

* (TPHA, MHA-TP)³

Non-Specific Test:-

* VDRL

* RPR

Q12

a) Diagnosis :-

Cholera

b)

Pathogenesis :-

→ Vibrio cholera secretes cholera toxin that cause watery diarrhea (Known as rice water stool)

→ Cholera toxin contain S.B. subunits that play in attaching to intestinal epithelial cells & 1 A subunit that plays a role in toxic activity

- Persistence stimulation of Adenylate cyclase.
- over production of Cyclic AMP.
- Activation of Cyclic Amp dependent protein kinase
- phosphorylation of Ionic Channels in cell membrane.

c) Lab diagnose:-

- * Stool culture
- * TCBS media for culture
- * Transport media
- * Isolation and identification of organism

Q13

a) One Opportunistic fungal infection:-

- * Thrush
- * Meningitis

One Viral infection:-

- * Hairy leukoplakia
- * Esophagitis

One Malignancy:-

- * Kaposi's sarcoma

b)

Types of HIV virus:-

- * HIV-1 cause B cell lymphoma
- * HIV-2 cause Non-hodgkins lymphoma

C)

Genes

Proteins

* gag

P 24, P7, P17

* pol

Reverse transcriptase
Protease (PIR)
Integrase

* env

Gp120, Gp41

Q14

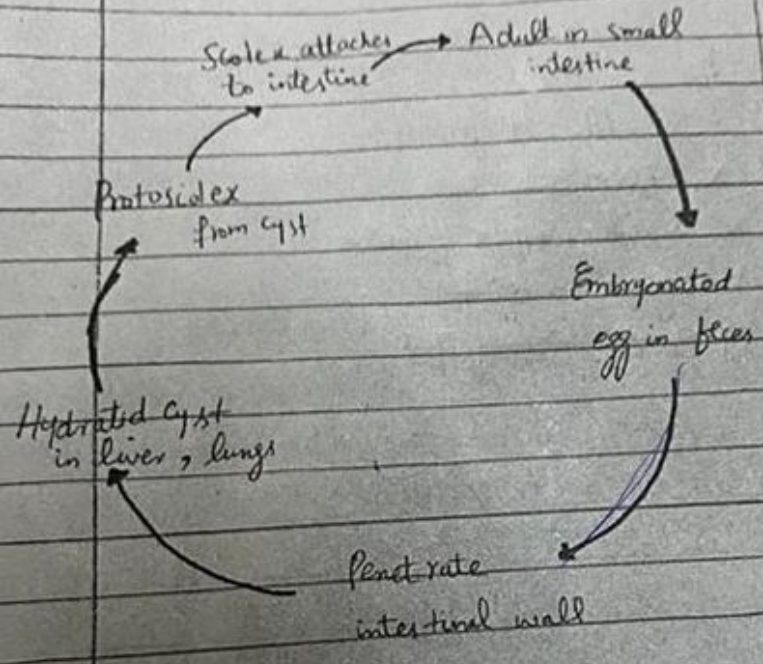
a) Diagnosis:-

Hydatid Cyst disease

Parasite:-

Echinococcus granulosus

b) Life cycle



c) Lab diagnosis:-

- * CT scan
 - * MRI
 - * Ultrasonography
- To detect cysts.

Q15

a)

Candida albicans

b)

Lab diagnosis:-

- * Germ tube test
- * Chlamydospore formation
- * Sugar fermentation
- * Gram staining test