



All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Final Examination 2016
Pathology (Paper-II)

Max. Marks: 75

Time : 3 Hrs

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

Q1. WRITE SHORT ANSWERS:

(1x5=5)

- a. Enumerate four paraneoplastic syndromes associated with Bronchogenic carcinomas.
- b. Draw a labelled diagram of the biomarkers in acute myocardial infarction
- c. Define nephrotic syndrome.
- d. Mention four important causes of papillary necrosis in kidney.
- e. Mention the important types of small vessel vasculitis.

Q2. WRITE SHORT NOTES:

(4x5=20)

- a. Vegetations in heart
- b. Compare and contrast between lobar pneumonia & bronchopneumonia
- c. Mention the morphological patterns seen in alcoholic hepatitis.
- d. Pathogenesis of celiac disease.
- e. Adenoma-carcinoma sequence in colonic cancer

Q3. 32 year old female present with fever, joint pain & erythematous patch on face and bridge of nose.

(2+3=5)

- a. What is your diagnosis? Explain with reasons.
- b. Mention the morphological changes in kidney.

Section - B

Q4. WRITE SHORT NOTES:

(4x6=24)

- a. Prognostic factors in breast cancer
- b. Classify the surface epithelial tumors of ovary.
- c. Gestational trophoblastic diseases.
- d. Paget disease of the bone
- e. Write in tabular format difference between pyogenic and tubercular meningitis.
- f. Multiple endocrine neoplasia (MEN)

(P.T.O)

Q5. 10 year old boy came with the complaints of fever, pain swelling and tenderness on the right lower leg. X-ray reveals onion skin appearance of the lower end of tibia.

(2+2+2=6)

- a. What is your diagnosis and give 2 reasons in support of your diagnosis
- b. Mention the molecular basis of the above conditions.
- c. Draw a labelled diagram of the case.

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14. W.

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a.
b.
c.
d.



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Section – C

Write the most appropriate answer (against the question Nos. : a/b/c/d) in the Main Answer Sheet (Section-A).

Multiple Choice Questions:

(1x15=15)

1. Pigeon breeder's lung is also known as:
 - a. Hypersensitivity pneumonitis
 - b. Farmer's lung
 - c. Silicosis
 - d. Asbestosis
2. Long term assessment of diabetes is provided by the following investigation :
 - a. Whole blood glucose estimation
 - b. Plasma glucose estimation
 - c. Capillary method of glucose estimation
 - d. Glycosylated haemoglobin
3. The etiologic agent for Creutzfeldt-Jakob disease is :
 - a. HIV
 - b. JC virus
 - c. Prions
 - d. Varicella virus-zoster
4. A one year old female child presented with an abdominal mass. Her 24 hour urinary levels of metanephrine are elevated. Histopathology of the resected mass shows the tumor composed of numerous proliferating small round blue cells with occasional Homer-Wright rosettes. Which of the following is the most likely diagnosis?
 - a. Nephroblastoma
 - b. Hepatoblastoma
 - c. Neuroblastoma
 - d. Osteoblastoma
5. The EARLIEST serological marker of acute viral hepatitis B infection is:
 - a. Anti HBs antibody
 - b. IgM anti HBs antibody
 - c. IgM anti HBc antibody
 - d. IgM anti HBe antibody
6. A 40 year old male presents with cough, haemoptysis and features of glomerulonephritis. His c-ANCA levels in serum were found to be raised. The most likely diagnosis is:
 - a. Goodpasture syndrome
 - b. Polyarteritis nodosa
 - c. Wegener granulomatosis
 - d. Kawasaki syndrome

(P.T.O)

7. Which of the following is NOT a constituent of the glomerular filtration barrier?
- Basement membrane
 - Podocytes
 - Parietal epithelial cells
 - Endothelial cells
8. Back wash ileitis is seen in:
- Crohn disease
 - Ulcerative colitis
 - Colonic carcinoma
 - Ileal polyp
9. Which of the following is a marker for GIST?
- CD 10
 - S-100
 - CD 1a
 - CD 117
10. All are genetic mutations seen in breast cancer except:
- BRCA-1
 - PTEN
 - p53
 - Rb
11. Which of the following is a diagnostic feature in primary biliary cirrhosis?
- Raised p-ANCA
 - Raised anti mitochondrial antibody
 - Raised anti Smith antibody
 - Raised c-ANCA
12. Which of the following thyroid tumors produces amyloid?:
- Papillary carcinoma
 - Follicular carcinoma
 - Medullary carcinoma
 - Anaplastic carcinoma
13. Nutmeg liver is a feature classically described in:
- Acute viral hepatitis
 - Chronic venous congestion
 - Wilson disease
 - Cirrhosis
14. Tumor infiltrating lymphocytes (TIL) is a feature commonly seen in which of the following testicular tumors?
- Seminoma
 - Embryonal carcinoma
 - Yolk sac tumor
 - Choriocarcinoma
15. Soap bubble appearance on X-ray of bone is characteristic of:
- Osteochondroma
 - Osteoclastoma
 - Osteosarcoma
 - Osteoid osteoma



03

All India Institute of Medical Sciences, Bhubaneswar
2nd Professional MBBS Examination 2015

Time : 3 Hrs

Pathology (Paper - I)

Max. Marks: 75

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

Section - A

Q1. WRITE SHORT ANSWERS:

(1x10=10)

- a. Describe the role of p53 and Rb genes in cell cycle regulation.
- b. What is metastasis and mention the different modes of spread.
- c. Role of arachidonic acid metabolites in inflammation.
- d. Define neoplasia.
- e. Mention 4 AIDS-Defining opportunistic infections.
- f. What are MHC molecules and mention their clinical importance.
- g. Name one oncogenic bacteria and one oncogenic parasite.
- h. What is metaplasia? Give two examples.
- i. Causes of red infarct with example.
- j. Role of NK cell in immunity and mention their molecular markers.

Q2. WRITE SHORT NOTES:

(2.5x6=15)

- a. What are growth factors? Mention the important growth factors involved in angiogenesis.
- b. Gaucher disease.
- c. What are free radicals and mention their role in cell injury?
- d. Pathogenesis of septic shock.
- e. What is type -II hypersensitivity reaction? Give 4 examples of it.
- f. Illustrate the mechanism of phagocytosis with a labelled diagram.

(P.T.O)

Q3. 32 year old female present with fever, joint pain & erythematous patch on face and bridge of nose. (1+2+2=5)

- a. What is your diagnosis?
- b. What investigations you need to do in this case?
- c. Name the morphological patterns in the kidney.

Section - B

Q4. WRITE SHORT NOTES: (2x10=20)

- a. What is Plummer Vinson syndrome? Mention the differential diagnosis of microcytic hypochromic anemia?
- b. Mention four causes of pancytopenia.
- c. Thrombotic thrombocytopenic purpura
- d. Eosinophilic granuloma
- e. Peripheral smear and bone marrow picture in megaloblastic anemia
- f. Laboratory diagnosis in a young adult male presenting with hemarthrosis and easy bruising with family history of affected maternal uncle and maternal grandfather.
- g. Burkitt lymphoma.
- h. Draw the pathognomonic cells of Hodgkin lymphoma.
- i. Mention two important indications for haematopoietic stem cell transplantation.
- j. Plasmacytoma.

Q5. A 50-year old female presented with weakness, anorexia, weight loss and pain in the left hypochondrium. On examination she had massive splenomegaly. CBC - Hb 10 gm %, WBC 2 lakhs / mm³, Platelet - 5 lakhs / mm³ (1+4+1+4=10)

- a. What is your diagnosis and give two reasons in support of your diagnosis?
- b. Draw a labelled diagram of the peripheral smear findings seen in this case.
- c. Mention the characteristic translocation of this case.
- d. What are the different phases of the disease and mention the diagnostic criteria for each?



02

All India Institute of Medical Sciences, Bhubaneswar

2nd Professional MBBS Examination 2015

Time : 3 Hrs

Pathology MCQ (Paper - I)

Max. Marks: 75

Section - C

Write the most appropriate answer (against the question Nos. : a/b/c/d) in the Main Answer Sheet (Section-A).

Please return the MCQ question paper to invigilator.

Multiple Choice Questions:

(1x15=15)

1. Father of cellular Pathology is:

- a. Carl Rokitansky
- b. Hippocrates
- c. Rudolf Virchow
- d. John Hunter

2. Tuberculin reaction is an example of which of the following types of immunologically mediated injury.

- a. Type-I
- b. Type-IV
- c. Type-III
- d. Type-II

3. Which genotype of HPV is responsible of cancer cervix:

- a. HPV 16 & 11
- b. HPV 16 & 18
- c. HPV 8 & 6
- d. HPV 9 & 31

4. The basement membrane is composed of which type of collagen :

- a. Type -I
- b. Type - IV
- c. Type - VII
- d. Type - XI

5. Leber hereditary optic neuropathy is caused by a mutation in:

- a. Chromosome - 12
- b. Chromosome - 18
- c. Chromosome - 21
- d. Mitochondrial DNA

6. Following are precancerous conditions except:

- a. Chronic atrophic gastritis
- b. Leukoplakia
- c. Chronic ulcerative colitis
- d. Chronic granulomatous disorder

7. Diabetic foot is an example of:

- a. Gas gangrene
- b. Wet gangrene
- c. Dry gangrene
- d. Necrotising inflammation.

8. t(15:17) translocation is seen in:

- a. Acute promyelocytic leukaemia
- b. Acute lymphoblastic leukaemia
- c. Chronic myeloid leukaemia
- d. Chronic lymphocytic leukaemia

9. Bence Jones Proteinuria is seen in:

- a. Hodgkin lymphoma
- b. Leukaemia
- c. Non-Hodgkin lymphoma
- d. Multiple myeloma

10. In warm antibody autoimmune haemolytic anaemias, the antibody commonly seen is:

- a. IgA
- b. IgG
- c. IgM
- d. IgD

11. Lardaceous spleen is seen in:

- a. Hypersplenism
- b. Chronic venous congestion
- c. Amyloidosis
- d. Splenic abscess

d. Osteoma



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Time : 3 Hrs

Pathology MCQ (Paper – II)

Max. Marks: 75

Section – C

Write the most appropriate answer (against the question Nos: a/b/c/d) in the Main Answer Sheet (Section-A).

Please return the MCQ question paper to invigilator.

Multiple Choice Questions:

(1X15=15)

1. Pigeon breeder's lung is also known as:
 - a. Hypersensitivity pneumonitis
 - b. Farmer's lung
 - c. Silicosis
 - d. Asbestosis

2. The common soft tissue sarcoma in children is:
 - a. Liposarcoma
 - b. Embryonal rhabdomyosarcoma
 - c. Malignant fibrous histiocytoma
 - d. Synovial sarcoma

3. The etiologic agent for Creutzfeldt-Jakob disease is :
 - a. HIV
 - b. JC virus
 - c. Prions
 - d. Varicella virus-zoster

4. A one year old female child presented with an abdominal mass. Her 24 hour urinary levels of metanephrine are elevated. Histopathology of the resected mass shows the tumor composed of numerous proliferating small round blue cells with occasional Homer-Wright rosettes. Which of the following is the most likely diagnosis?
 - a. Nephroblastoma
 - b. Hepatoblastoma
 - c. Neuroblastoma
 - d. Osteoblastoma

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12. PECAM-1 adhesion molecule plays a role in:

- a. Rolling
- b. Transmigration
- c. Margination
- d. Chemotaxis

13. What is the karyotype in Klinefelter syndrome?

- a. 46, XY
- b. 47, XYY
- c. 47, XXY
- d. 45, X

14. All the following are immunologically "privileged sites" except:

- a. Cornea
- b. Testis
- c. Brain
- d. Spleen

15. Annexin - V is used as a marker for:

- a. Necrosis
- b. Apoptosis
- c. Fatty change
- d. Gangrene

06



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2nd Professional MBBS Examination 2015

Time: 3 Hrs

Pathology (Paper – II)

Max. Marks: 75

Section – A

Q1. WRITE SHORT ANSWERS:

(1x10=10)

- a. Mention the morphological findings of alcoholic hepatitis.
- b. Mention the important biomarkers of myocardial infarction.
- c. Mention four important conditions causing malabsorption and diarrhoea
- d. Role of Helicobacter pylori in pathogenesis of gastric lesions.
- e. Write two important causes of aneurysm.
- f. Mention the various types of renal calculi.
- g. Mention the metabolic diseases affecting the liver.
- h. Mention the various histological types of meningioma.
- i. What is Alport syndrome.
- j. Mention the major causes of acute tubular necrosis (ATN)

Q2. WRITE SHORT NOTES:

(2.5x6=15)

- a. Hereditary non polyposis colorectal cancer (HNPCC)
- b. Mention the risk factors and pathogenesis of gall stones.
- c. Autoimmune enteropathy
- d. Define portal hypertension and mention its four important clinical consequences.
- e. Write in tabular form the differences between bacterial & viral meningitis.
- f. Define nephrosclerosis and mention the types and morphological findings.

(P.T.O)

Q3. A 25 year lady with past history of sore throat developed progressive dyspnoea and joint pain. On examination she had subcutaneous nodules and involuntary rapid movements of hands. On auscultation she had a cardiac murmur. (1+4=5)

- a. What is your diagnosis?
- b. Mention the pathogenesis and two important morphological findings of the above condition.

Section – B

Q4. WRITE SHORT ANSWERS:

(1x10=10)

- a. Mention the predisposing factors for endometrial hyperplasia.
- b. Mention the WHO criteria for diagnosis of diabetes mellitus.
- c. Define endometriosis and mention the important sites.
- d. Ewing sarcoma.
- e. Mention the sputum findings in bronchial asthma.
- f. Enlist the histopathological features in rheumatoid arthritis.
- g. Write the morphological differences between sarcoid granuloma & tubercular granuloma.
- h. Classify bone tumors.
- i. Write in tabular form the differences between bronchopneumonia and lobar pneumonia.
- j. Paget disease of the nipple.

Q5. WRITE SHORT NOTES:

(2.5x6=15)

- a. Phyllodes tumor
- b. Classify germ cell tumors of the testis.
- c. Write in tabular form the difference between type-I and type-II diabetes mellitus.
- d. Mention the special histological subtypes of breast carcinoma.
- e. Pheochromocytoma.
- f. Mention important causative organisms and morphology of chronic osteomyelitis.

Q6. A 60 year old male smoker presenting with cough and haemoptysis for three months. He has loss of appetite, weight loss and serum calcium is 20 mg/dl. Chest x-ray shows 4x5 cm mass in the right hilar region. (2+1+1+1=5)

- a. What is your diagnosis and why?
- b. Describe the microscopic features.
- c. What is the etiopathogenesis?
- d. How will you explain the calcium level?

5. Accelerated phase of hypertension is characterized microscopically by:
- Fibrinoid necrosis of arteriolar wall
 - Hyaline arteriosclerosis
 - Elastosis of the intima
 - Marked calcification of the media
6. A 40 year old male presents with cough, haemoptysis and features of glomerulonephritis. His c-ANCA levels in serum were found to be raised. The most likely diagnosis is:
- Goodpasture syndrome
 - Polyarteritis nodosa
 - Wegener granulomatosis
 - Kawasaki syndrome
7. Papillary necrosis is seen in all except:
- Diabetes mellitus
 - Sickle cell disease
 - Analgesic nephropathy
 - Toxic acute kidney injury
8. Back wash ileitis is seen in:
- Crohn disease
 - Ulcerative colitis
 - Colonic carcinoma
 - Ileal polyp
9. Most common site for carcinoma of pancreas:
- Head
 - Body
 - Tail
 - Body and tail
10. All are genetic mutations seen in breast cancer except:
- BRCA-1
 - PTEN
 - p53
 - Rb

11. The nodules in micronodular cirrhosis are:
- < 3mm
 - < 5 mm
 - < 10 mm
 - < 2 mm
12. The following thyroid cancer is a neuroendocrine tumor:
- Papillary carcinoma
 - Follicular carcinoma
 - Medullary carcinoma
 - Anaplastic carcinoma
13. Inflammation of the glans penis is called:
- Orchitis
 - Balanitis
 - Prosthitis
 - Prostatitis
14. Human chorionic gonadotropin and its β subunit are demonstrable in which of the following testicular tumors?
- Seminoma
 - Embryonal carcinoma
 - Yolk sac tumor
 - Choriocarcinoma
15. Soap bubble appearance on X-ray of bone is characteristic of:
- Osteochondroma
 - Osteoclastoma
 - Osteosarcoma
 - Osteoid osteoma