THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 0524] **MAY 2024** **Sub. Code: 4006**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – SYSTEMIC PATHOLOGY

Q.P. Code: 204006

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 15 = 30)**

1. Define Obesity and discuss its etiopathogenesis and consequences.
2. Classify non-infectious vasculitis. Discuss pathogenesis and describe in detail morphological and clinical course of Polyarterits Nodosa.

II. Write short notes on: **(10 x 5 = 50)**

1. Discuss role of immunohistochemistry in metastasis of unknown primaries.
2. Spelnic cysts.
3. Primary atypical pneumonia.
4. Fibrolamellar Carcinoma - Liver.
5. Familial tumor syndromes.
6. Metaplastic lesions of the bladder.
7. Primary effusion lymphoma.
8. Whipples disease.
9. Osteoclast rich bone tumours.
10. Renal biopsy.

III. Reasoning Out: **(4 x 5 = 20)**

1. 3 year old male child presented with gross Hematuria, abdominal pain, hypertension and huge abdominal mass CT abdomen showed a huge heterogeneous solid left sided intra abdominal mass.
   a) What is your diagnosis?
   b) What is the genetic abnormality?
   c) Syndromes associated with this condition?
   d) What is the morphological feature?

2. A 43-year-old female presented with persistent nasal congestion with intermittent Epistaxis without resolution for the preceding 5 years. Clinical examination revealed a large pink rubbery mass, medial to the middle turbinate in the right nasal cavity extending to the choana. Radiographic images showed a heterogeneously enhancing lobular soft tissue mass filling the right nasal cavity extending posteriorly to the right anterior ethmoid sinus. IHC stains were positive for Synaptophysin, chromogranin, CD56. Keratins was negative.
   a) What is your diagnosis?
   b) What is the morphological feature?
   c) What is the electron microscopic feature?

3. 35 year old male with slowly enlarging painless cystic mass in the midline anterior neck measuring 2-4 cm in size which becomes prominent on protruding the tongue.
   a) What are the midline cystic lesions?
   b) What is the probable diagnosis?
   c) Write the pathophysiology of this condition.
   d) What malignancies can arise from this lesion?

4. 50 year old male was admitted in the hospital for uncontrolled diabetes with fever, leukocytosis, abdominal pain, cramps and watery diarrhoea. He was on a prolonged course of antibiotics.
   a) What is your diagnosis?
   b) What s the causative agent?
   c) What is the gross and microscopic feature?
   d) What are the complications that can occur?

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[MD 0524]

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 1224] **DECEMBER 2024** **Sub. Code: 4006**

(OCTOBER 2024 EXAM SESSION)

M.D. DEGREE EXAMINATION

PATHOLOGY

PAPER II – SYSTEMIC PATHOLOGY

Q.P. Code: 204006

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 15 = 30)**

1. Define and classify Cirrhosis. Discuss the pathogenesis and morphology of Non-alcoholic Steatohepatitis.

2. Discuss in detail the approach to diagnosis of thyroid tumors with follicular pattern.

II. Write short notes on: **(10 x 5 = 50)**

1. Neuro endocrine tumors of the GIT.
2. Premalignant lesions of skin.
3. Duchenne muscular dystrophy.
4. Inflammatory myofibroblastic tumor.
5. IgA nephropathy.
6. Cancerization of lobules.
7. Morphological changes of brain in Alzheimer disease.
8. Pathogenesis and morphology of Ophthalmopathy of Graves disease.
9. Pathogenesis of long-term complications of Diabetes mellitus.
10. Pannus in Rheumatoid arthritis.

III. Reasoning Out: **(4 x 5 = 20)**

1. 12-year-old male child presented with pain and swelling mid 1/3 of leg. X-ray showed poorly defined osteolytic permeative lesion with onion skin periosteal reaction in the diaphysis of tibia.
   a) The most probable diagnosis.
   b) Diagnostic features of the condition.
   c) Molecular pathology.

2. 45-year-old lady presented with subcutaneous nodules, chronic cough and shortness of breath. X-ray showed bilateral hilar lymphadenopathy. Serum Angiotensin converting Enzyme levels and serum calcium elevated.
   a) What is the most likely diagnosis?
   b) Pathogenesis of the condition.
   c) Histopathological features.

3. 50-year-old previously healthy male presented with seizures. MRI brain showed temporoparietal mass with necrotic areas and ring like enhancement. Biopsy showed hypercellular infiltrative tumor with necrosis.
   a) What is the most probable diagnosis?
   b) WHO grading.
   c) Molecular tests to be done.

4. 31-year-old male presented with episodic headaches, sweating and tachycardia. CT abdomen showed left suprarenal mass.
   a) Most probable diagnosis.
   b) Name the associated inherited syndromes.
   c) Describe the prognostic scoring system based on histologic features.

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[MD 1224]

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 0525] **MAY 2025** **Sub. Code: 4006**

M.D. DEGREE EXAMINATION

PATHOLOGY

PAPER II – SYSTEMIC PATHOLOGY

Q.P. Code: 204006

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 15 = 30)**

1. Classify Glial tumours. Discuss the molecular pathogenesis and grading of tumours based on latest WHO system.

2. Classify and discuss pathogenesis, staging and molecular diagnosis of Paediatric Renal Tumours.

II. Write short notes on: **(10 x 5 = 50)**

1. Discuss Vesiculo Bullous lesions of Skin.
2. Describe in detail about cystic neoplasms of the Pancreas.
3. Noninvasive Urothelial lesions.
4. Changes in Breast carcinoma morphology after neoadjuvant chemotherapy.
5. Gastric Carcinoma of Fundic Gland Mucosa Lineage.
6. Odontogenic tumours of Mandible.
7. Pathology of Covid lung.
8. Cystic lesions of the Bone.
9. Pathophysiology of Inflammatory Bowel disease.
10. Pathology of Non-Alcoholic Fatty Liver Disease (NAFLD).

III. Reasoning Out: **(4 x 5 = 20)**

1. 32-year female complaints of intermittent attacks of diarrhoea, cyanosis and flushing for 4 years along with repeated attacks of bronchoconstriction. She also admits of dry cough and occasional haemoptysis for same duration. Chest X-ray shows a small circumscribed nodule in the left lung.
   a) What is the most possible diagnosis?
   b) Discuss the morphology.
   c) How will you proceed for confirmation of your diagnosis?

2. 20-year-old patient, who was phenotypically female with signs of virilization presented with a tumour involving gonad. On cut section the gonadal mass showed foci of calcification.
   a) What would be the possible diagnosis?
   b) Discuss the karyotype.
   c) Discuss its morphological features.

3. 70-year-old male presented with complaints of difficulty in passing urine and severe back ache.
   a) What is the diagnosis?
   b) Describe about etiopathogenesis.
   c) Discuss updated grading system of the lesion.

4. 38-year-old pregnant woman had vaginal bleeding with passage of grape like vesicles. Her uterus was disproportionately large for the stage of pregnancy. Ultrasonogram showed typical "Snowstorm" appearance.
   a) What is the diagnosis?
   b) Describe the pathogenesis and histology of the lesion.
   c) Enlist the prognostic factors.

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[MD 0525]

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 1025] **OCTOBER 2025** **Sub. Code: 4006**

M.D. DEGREE EXAMINATION

PATHOLOGY

PAPER II – SYSTEMIC PATHOLOGY

Q.P. Code: 204006

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 15 = 30)**

1. Classify bone tumors. Discuss in detail on chondrogenic tumors.
2. Describe histology, cytogenetics and genetic classification of renal cell carcinoma.

II. Write short notes on: **(10 x 5 = 50)**

1. Gene expression profile in breast carcinoma.
2. Discuss role of frozen section in the diagnosis of ovarian masses.
3. Extramammary Paget's disease.
4. Adrenocortical adenoma.
5. Describe the pathology of pulmonary granulomatous inflammation, the differential diagnosis and various diagnostic modalities.
6. Laboratory evaluation of male infertility.
7. Neuroendocrine tumor of GIT.
8. Serrated Polyps.
9. Autoimmune hepatitis.
10. Genetic basis and differential diagnosis of complete and partial mole.

III. Reasoning Out: **(4 x 5 = 20)**

1. A 2-year-old male child presented with fever, malaise, weight loss, watery diarrhea and Raccoon eyes. O/E had a solid abdominal mass CT showed a echogenic and inhomogeneous mass with bright calcification and encasement of aorta and splanchnic vessels. Laboratory investigation showed increased urinary metabolites of catecholamines.
   a) What is your diagnosis?
   b) Write the histologic classification,
   c) What is the morphological feature?
   d) Mention the IHC and molecular markers?

2. Young female, aged 25, seeks medical attention with coldness and numbness of fingers, vertigo and dimness of vision. O/E: Radial pulse on both upper limbs very weak.
   a) What is your diagnosis?
   b) What are the morphological features?
   c) How will you establish your diagnosis?

3. A 5-year-old child is brought to the outpatient department with a non-tender, small right-sided inguinal swelling present since birth. O/E, right scrotal sac is empty.
   a) What is your provisional diagnosis?
   b) What is the pathophysiology of this condition?
   c) What are the investigations you want to perform for confirmation?
   d) What is the most common malignancy that can arise in this condition?

4. 67/F presents with post menopausal bleeding, voice change and hirsutism for 2 months. P/V examination shows right ovarian enlargement.
   a) What are the solid and cystic tumors?
   b) What are the morphological features?
   c) How can you confirm your diagnosis?

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[MD 1025]

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 0526] **MAY 2026** **Sub. Code: 4006**

M.D. DEGREE EXAMINATION

PATHOLOGY

PAPER II – SYSTEMIC PATHOLOGY

Q.P. Code: 204006

Time : Three Hours **Maximum : 100 Marks**

I. Essay: **(2 x 15 = 30)**

1. Enumerate Small blue round cell tumours. Discuss the role of Immunohistochemistry and molecular markers in their diagnosis.

2. Discuss the updates in the recent WHO classification of breast carcinoma. Add a note on the molecular classification.

II. Write short notes on: **(10 x 5 = 50)**

1. Pathology of IPSID (Immunoproliferative Small Intestinal Disease).
2. Differential diagnosis of Pigmented Melanocytic neoplasm.
3. Pathogenesis of Cirrhosis liver.
4. Describe Reed-Sternberg giant cell. Mention the conditions in which you see them. List the Immunomarkers for Reed-Sternberg cell.
5. Indication and interpretation of testicular biopsy in male infertility.
6. Hemochromatosis.
7. Serrated Intestinal Polyps.
8. Prognostic factors in Neuroblastoma.
9. Role of Frozen section for muscle biopsy.
10. Role of immunofluorescence in diagnosis of skin disorders.

III. Reasoning Out: **(4 x 5 = 20)**

1. A 5-year-old boy presented with delayed walking, difficulty in getting up and pseudohypertrophy of calf muscles. Familial inheritance pattern was noted on history elicitation.
   a) What is your diagnosis?
   b) What is the morphology?
   c) What is the molecular genetics of this condition?

2. 50/Male, alcoholic presented with acute abdominal pain which was radiating to upper back. Serum Enzyme study was done to clinch the diagnosis.
   a) What is your diagnosis?
   b) Describe about the pathogenesis and morphology of this condition.
   c) What are the complications?
   d) Write about the lab findings in this condition.

3. A 65-year-old female presented with post-menopausal bleeding and loss of weight. USG revealed mass in fundus measuring 2 cm in size. Adjoining endometrium appears atrophic.
   a) What is your provisional diagnosis?
   b) What are the types and their prognostic significance?
   c) What are the associated mutations?
   d) What are the various histo-morphological types and grading system?

4. 45 /male, presents with repeated attacks of bloody diarrhoea with stingy mucus and the patient also had skin lesions, uveitis and polyarthritis. On coloscopy, an ulcer noted in the ileum.
   a) What is your diagnosis?
   b) Write about the pathogenesis and morphology of disease.
   c) What is the differential diagnosis?
   d) What are the complications and prognosis?

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[MD 0526]