April-2001

[KD 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

(Common to OR/NR/Revised Regulations)

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the healing process and modern concepts with brief note on healing of specific organ. (25)

2. Discuss H.L.A. system in health and disease. (25)

3. Write briefly on : (5 × 10 = 50)

   (a) Apoptosis.

   (b) Graft verses host reaction.

   (c) Granulomatous lesions.

   (d) Gangrene.

   (e) Chemical mediators.

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November-2001

[KE 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Common to New/Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss about Leukocyte functions in relation to inflammation and describe the leukocyte function tests and clinical conditions with defects in leukocyte functions. (25)

2. Discuss the current trends in the etiopathogenesis and pathology of atherosclerosis. (25)

3. Write briefly on : (5 × 10 = 50)

   (a) Fibronectins.

   (b) Oncogenes.

   (c) Basement membrane.

   (d) Stains for fungal elements.

   (e) Ochronosis.

March-2002

[KG 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION

(Common to OR/NR/Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours 2 Maximum : 100 marks

Answer ALL questions.

1. Classify chemical mediators of inflammation. Discuss the role of recently discovered chemical meditors in inflammation. (25)

2. Discuss the aetiopathogenesis and pathology of tissue calcifications. (25)

3 Write short notes on : (5 x 10 = 50)

(a) Antinuclear antibodies.

(b) Pulmonary oedema.

(c) Free radicals in diseases.

(d) Fat necrosis.

(e) Haemosiderin associated diseases

September-2002

[KH 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the role of histiocyte in health and disease. (25)

2. Discuss the role of viruses in cancer. (25)

3. Write briefly on : (5 × 10 = 50)

   (a) PRIONS

   (b) Apaptosis

   (c) Ochronosis

   (d) Blooms syndrome

   (e) Disseminated intravascular coagulation.

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April-2003

[KI 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Classify chemical mediators of inflammation. Describe briefly the mechanism of action of each. (25)

2. Discuss briefly about primary immune deficiencies. (25)

3. Write briefly on : (5 × 10 = 50)

   (a) Amyloid

   (b) Apoptosis

   (c) Cytokines

   (d) Immune Complex Reactions

   (e) Tumour Markers.

October-2003

[KJ 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Sep 2003 Maximum : 100 marks

Theory : Two hours and forty minutes — Theory : 80 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

M.C.Q. must be answered **SEPARATELY** on the Answer Sheet provided as per the instructions on the first page.

Answer ALL questions.

Draw suitable diagrams wherever necessary.

1. Discuss the molecular biology of biological carcinogenesis. (15)

2. Discuss in detail the pathogenesis and pathology of Thrombosis. (15)

3. Write short notes on : (10 × 5 = 50)

(a) Interferons and its role in disease

(b) Automation in pathology

(c) Tumor markers

(d) Free radicals and their effects

(e) DNA finger printing and its utility

(f) Antioncogenes and its role in cancer production

(g) Chemotaxis and phagocytic function tests

(h) Pathophysiology of apoptosis

(i) Graft versus host reaction

(j) Pathogenesis of pulmonary oedema.

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[KK 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

A. Essay. (2 × 15 = 30)

(1) Classify chemical mediators of Inflammation. Give a brief description of mechanism of action. (15)

(2) Molecular diagnostic techniques in the diagnosis of diseases. (15)

B. Short notes on : (10 × 5 = 50)

(1) Pathologic calcification.

(2) Autosomal Dominant Disorders.

(3) Systemic Lupus Erythematosus.

(4) P53 gene.

(5) Infectious Mononucleosis.

(6) Cancer–Suppressor genes.

(7) Differentiation and Anaplasia.

(8) Aetiology of Thrombus formation.

(9) Infarction.

(10) Paraneoplastic Syndromes.

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[KL 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the role of cytogenetics in Neoplastic disorders. (15)

(2) Discuss the etiopathogenesis of Amyloidosis and the methods of demonstration of amyloid in tissues. (15)

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

(a) Von Gierke's disease.

(b) Prognostic markers in cancer.

(c) Refinement in tumour staging.

(d) Angiogenesis in neoplasia.

(e) Electron microscopy.

(f) Bone matrix proteins.

(g) HLA antigens and disease.

(h) T-cell receptor complex.

(i) Drug resistance in human tumours.

(j) Primary immune deficiency syndromes.

[KM 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss Edema. (15)

(2) Discuss HIV associated respiratory infections. (15)

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

(a) Viral oncogenesis.

(b) Pathogenesis of ageing

(c) Adult respiratory distress syndrome.

(d) Immuno–histochemistry of soft tissue tumors.

(e) Heat–Shock proteins.

(f) Spontaneous regression of tumors.

(g) Lysosomal storage disorders.

(h) Role of immunohistochemistry of keratins in diagnosis of tumors.

(i) HLA and disease.

(j) Adhesion molecules.

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[KO 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary

I. Essay questions : (2 × 15 = 30)

1. Discuss the causes, biochemical features and mechanism of Apoptosis.

2. Discuss the steps involved in the invasion and metastasis of malignant neoplasms.

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

(a) Oxygen derived free radicals

(b) Defects in Leukocyte function

(c) Role of endothelium in haemostasis and thrombosis

(d) Antinuclear Antibodies (ANA) in autoimmune diseases

(e) Classification of Amyloidosis

(f) Sudden infant Death Syndrome (SIDS)

(g) Zoonotic bacterial infections

(h) Prenatal Diagnosis of genetic diseases

(i) Metaplasias in Female genital tract

(j) Lepra reactions.

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[KP 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

Paper II — GENERAL PATHOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions :

(1) Classify autoimmune diseases. Discuss aetiopathogenesis and pathology of systemic Lupus Erythematosus. (20)

(2) Discuss clinical utility and methodology of telepathology. (15)

(3) Discuss the host defence against the tumours. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Heat shock proteins.

(b) Disorders due to sex chromosomes.

(c) Septic shock.

(d) Antiphospholipid antibody.

(e) Paraneoplastic syndromes.

(f) Fluorescent microscopy and its use in diagnosis.

[KQ 112] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

GENERAL PATHOLOGY

Common to
Paper II – (Old/New/Revised Regulations)
(Candidates admitted from 1988–89 onwards)

and

Paper II — (For candidates admitted from 2004–2005 onwards)

Time : Three hours — Maximum : 100 marks

Theory : Two hours and forty minutes — Theory : 80 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay Questions :

1. Discuss the adverse effects of ionising radiation of human body. (20)

2. Discuss the role of viruses in carcinogenesis. (15)

3. Discuss mast cell in health and disease. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Demonstration of mucin in tissue sections

(b) C.G.D. chronic (granulomatous disease)

(c) Lysosomal storage diseases

(d) Primary immunodeficiency disorders

(e) Caisson disease

(f) Pathology of malaria.

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[KR 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

GENERAL PATHOLOGY

Common to

Paper II — (Old/New/Revised Regulations)
(Candidates admitted upto 2003–04)

and

Paper II — (For candidates admitted from 2004–2005 onwards)

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Draw suitable diagram whenever necessary.

Answer ALL questions.

I. Essay questions :

(1) Discuss the various methods used in the post-natal diagnosis of genetic diseases. (20)

(2) Discuss the role of adhesion molecules in inflammatory response. (15)

(3) Discuss the types and morphology of infarction. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Microsatellite instability in neoplasia.

(b) Cytoskeletal abnormalities.

(c) Mechanism of cellular aging.

(d) Pathogenesis of granuloma.

(e) T cell immuno deficiency in HIV infection.

(f) Pathology of obesity.

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MARCH 2008

[KS 114] **Sub. Code : 2011**

M.D. DEGREE EXAMINATION.

Branch III — Pathology

GENERAL PATHOLOGY

(Common to all Regulations)

Q.P. Code : 202011

Time : Three hours Maximum : 100 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : ($2 \times 20 = 40$)

1. Discuss tumour cell proliferation markers and their significance.
2. Discuss the pathogenesis and morphology of shock.

II. Write short notes on : ($10 \times 6 = 60$)

1. Free radicals.
2. Integrins.
3. Lepromatous leprosy.
4. Toxoplasmosis.
5. Mechanism of apoptosis.
6. Mutations.
7. Tonofilaments.
8. Growth factors.
9. Dystrophic calcification.
10. Rickets.

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September 2008

[KT 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

Branch III – Pathology

Paper II - GENERAL PATHOLOGY

Common to all Regulations

Q.P. Code : 202011

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions : **(2 X 20 = 40)**

1. Define oedema. Discuss etiopathogenesis and morphology.

2. Define Granuloma. Name all types of granulomas. Discuss etiopathogenesis and laboratory diagnosis of mycobacterium tuberculosis.

II. Write short notes on : **(10 X 6 = 60)**

1. Healing by secondary union.
2. Alternate pathway of complement system.
3. Grading and staging of cancer.
4. Functions of plasma proteins.
5. Features of Vitamin A deficiency.
6. Metastatic calcification.
7. HLA system.
8. Cytotoxicity.
9. Gaucher's disease.
10. Types of Ischaemia and pathogenesis.

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March 2009

[KU 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

Branch III – PATHOLOGY

(Common to all candidates)

Paper II – GENERAL PATHOLOGY

Q.P. Code : 202011

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions : **(2 x 20 = 40)**

1. Discuss cellular and molecular events of acute inflammation.

2. Discuss etiopathogenesis and morphology of thromboembolism.

II. Write short notes on : **(10 x 6 = 60)**

1. Gene therapy.
2. Pathophysiology of pulmonary edema.
3. Functions of leukotrines.
4. Transplant rejection and graft survival.
5. Acute radiation injury.
6. Tumor markers.
7. Fish and Tish.
8. Role of endothelial cells in health and disease.
9. Morphology of infarct.
10. Healing of fracture and its complications.

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September - 2009

[KV 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

Branch III – PATHOLOGY

(Common to all candidates)

Paper II – GENERAL PATHOLOGY

Q.P. Code : 202011

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions : **(2 x 20 = 40)**

1. Define inflammation. Discuss the role of various chemical mediators in acute inflammation.
2. Classify mycoses. Discuss the pathogenesis, tissue reaction and diagnosis of various fungal infection.

II. Write short notes on : **(10 x 6 = 60)**

1. Types of necrosis
2. Cellular aging
3. Cell adhesion molecules
4. Fate of thrombus
5. Genomic imprinting
6. Tumour suppressor genes
7. Pathology of rickets
8. Chemoprevention of cancer
9. Precancerous lesions
10. Pneumoconioses

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March 2010

[KW 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

Branch III – PATHOLOGY

(Common to all candidates)

Paper II – GENERAL PATHOLOGY

Q.P. Code : 202011

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions : **(2 x 20 = 40)**

1. Role of immuno histochemistry in diagnostic pathology.

2. Laboratory approach to autoimmune diseases.

II. Write short notes on : **(10 x 6 = 60)**

1. Inflammatory myopathies.
2. Carcinoid syndrome.
3. Multistep carcinogenesis.
4. Pulmonary edema.
5. Chemokines - their relation to chronic idiopathic inflammatory bowel disease.
6. Current concepts in the pathogenesis of immunity of tuberculosis.
7. Cystic fibrosis.
8. Aminoacid disorders.
9. 'T' Cell receptor.
10. Familial hypercholesterolemia.

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September 2010

[KX 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

Branch III – Pathology

Paper II - GENERAL PATHOLOGY

(Common to all candidates)

Q.P. Code : 202011

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.
Answer ALL questions.

I. Essay questions : **(2 X 20 = 40)**

1. Define Neoplasia. Write the molecular basis of carcinogenesis.
2. Discuss the pathogenesis and diagnosis of Genito - Urinary Tuberculosis.

II. Write short notes on : **(10 X 6 = 60)**

1. Mucocutaneous manifestations of H.I.V infection.
2. Leukoplakia.
3. Mucin histochemistry.
4. Biomedical waste management.
5. Organic dust pneumoconiosis.
6. Frozen section.
7. Limitations of FNAC.
8. Adeno carcinoma.
9. Applications of PCR.
10. Cellular aging.

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MAY 2011

[KY 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

GENERAL PATHOLOGY

Q.P. Code : 202011

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Discuss about Human disease associated with occupational exposure.	6	15	10
2. Apoptosis in health and diseases.	6	15	10
II. Short Questions:			
1. Prognostic factors of Neuroblastoma.	3	8	5
2. Calcium homeostasis in cell injury.	3	8	5
3. Obesity and diseases.	3	8	5
4. Intracellular accumulation of protein.	3	8	5
5. RAS oncogene.	3	8	5
6. Connective tissue remodeling.	3	8	5
7. Epstein-Barr virus.	3	8	5
8. Antibody mediated hypersensitivity reaction.	3	8	5
III. Reasoning Out:			
1. 28/F presented with acute abdominal pain, diagnosed as twisted ovarian cyst and underwent surgery. Describe the etiopathogenesis and morphology of the ovary in this case.	4	10	5
2. 6 months old child presented with protuberant abdomen, vomiting, fever and deterioration of psychomotor function. Bone marrow biopsy was done and special stain also applied for confirmatory diagnosis. Describe the etiopathogenesis and morphology of the lesion.	4	10	5
3. 28/M admitted with H/O focal fits in the left arm that became generalized. He had taken antituberculous treatment irregularly. CT scan was taken. Describe the etiopathogenesis and laboratory diagnosis in this case.	4	10	5
4. 34/M admitted with massive splenomegaly. Discuss the differential diagnosis.	4	10	5
IV. Very Short Answers :			
1. Pyrogens.	1	4	2
2. Buerger's disease.	1	4	2
3. Enzymes as free radical scavenging system.	1	4	2
4. Nephrogenic rests.	1	4	2
5. McArdle disease.	1	4	2
6. Cardiovascular effects of cocaine.	1	4	2
7. Wiskott-Aldrich syndrome.	1	4	2
8. Prion disease.	1	4	2
9. Warburg effect.	1	4	2
10. Lipofuscin.	1	4	2

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April 2012

[LA 114] **Sub. Code: 2011**

M.D. DEGREE EXAMINATION
BRANCH III – PATHOLOGY
GENERAL PATHOLOGY
Q.P. Code : 202011

Time : 3 hours **Maximum : 100 marks**
(180 Min)

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. What is granulomatous inflammation? Give examples of diseases of granulomatous inflammation. Discuss pathogenesis of immune granulomas with reference to Tuberculosis.	9	15	10
2. What is angiogenesis? What are the mechanisms of angiogenesis? Discuss the role of Growth factors and receptors in angiogenesis.	9	15	10
II. Short Questions:			
1. Tabulate auto antibodies is SLE with prevalence percentage, Antigens recoginsed and the clinical utility of tests detecting the antibodies.	3	8	5
2. What are the stages of Lobar Pneumonia? Enumerate its Complications.	3	8	5
3. Write briefly on Amniotic fluid embolism.	3	8	5
4. Tabulate genetic and acquired diseases of leukocyte function with enumeration of the defect in each disease.	3	8	5
5. Represent diagrammatically cell cycle with its landmarks.	3	8	5
6. Define Macro and Microvesicular hepatic steatosis and give 2 examples for each condition.	3	8	5
7. Discuss mechanisms responsible for increased vascular Permeability in acute inflammation.	3	8	5
8. Outline briefly stages of shock.	3	8	5
III. Reasoning Out:			
1. A 26 year old women with third degree burns developed septic shock. With 24hours she was bleeding from all needle puncture sites, with extensive ecchymoses and petechiae and GI Bleeding. Lab studies showed Hb-6gm/dl., platelet count 64000/cu mm., PT 20 seconds, PTT 50 seconds and D-dimer positive. Which of the following is the most likely diagnosis? a) Autoimmune thrombocytopenia b) Circulating anticoagulants c) Disseminated intravascular coagulation d) Thrombotic thrombocytopenic purpura	5	10	5
2. A 25 year old women with poorly controlled gestational diabetes mellitus gave birth to a female infant who developed seizures 3 hours after birth. Which of the following hormones is the most likely cause of this symptom? a) Cortisol b)Epinephrine c) Glucagon d) Insulin	5	10	5
3. A 60 year old female on alighting after an 18 hour long air travel	(PTO)		

complained of pain in the right calf. On examination there was warmth, tenderness and modest swe1ling. Bed rest, elevation of the affected extremity above the level of the heart and treatment with anticoagulants are therapeutic measures for this condition. Name the condition being treated and what is the most important reason for the treatment? 5 10 5

4. A 16 year old female 130 cm in height presented with primary amenorrhoea. She was obese with infantile genitalia & inadequate breast development. The karyotype of this patient would most likely be:
   a) 45X
   b) 46XX / 46XY
   c) 47 XXY
   d) 47 XX + 21 5 10 5

IV. Very Short Answers :

1. What is the role of Fibroblasts in would healing? 1 4 2
2. What is the mechanism underlying Physiological Janudice? 1 4 2
3. What is "cigarette pack years"? 1 4 2
4. What are the common causes of neoplastic meningitis? 1 4 2
5. What are the causative organisms of Pneumonia in immuno compromised hosts? 1 4 2
6. Enumerate the paraneoplastic syndromes associated with Lung cancer. 1 4 2
7. What is intestinal metaplasia? 1 4 2
8. Describe a lipogranuloma. 1 4 2
9. What is lipofuscin ? 1 4 2
10. What are psammoma bodies ? 1 4 2

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[LB 114] **OCTOBER 2012** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

GENERAL PATHOLOGY

Q.P. Code : 202011

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Discuss role of Cytokeratin immune staining profiles in diagnostic anatomical pathology.	9	15	10
2. Define apoptosis. Enumerate its causes. Discuss mechanisms of apoptosis with suitable examples.	9	15	10
II. Short Questions:			
1. Discuss Fibrosis- Cancer link hypothesis.	3	8	5
2. Tabulate discriminant markers in reactive and neoplastic Mesothelium.	3	8	5
3. What are the functional consequences of mutation?	3	8	5
4. Outline the mechanisms of recognition and rejection of Renal allograft.	3	8	5
5. Describe a pulmonary infarct.	3	8	5
6. Discuss role of tobacco smoking in Lung Cancer.	3	8	5
7. Discuss mechanisms responsible for increased vascular permeability in acute inflammation.	3	8	5
8. Outline briefly stages of shock.	3	8	5
III. Reasoning Out:			
1. A 75 years old man admitted to the hospital with severe sub Sternal chest pain radiating to the arm and the jaw, died on day 5 of hospitalization due to ventricular arrhythmia. At autopsy, the left ventricle showed a pale yellow area of necrosis involving the posterior wall and the papillary muscles in the region of distribution of the right coronary artery. The type of necrosis is a) Caseous necrosis b) Coagulation necrosis c) Enzymatic fat necrosis d) Fibrinoid necrosis	5	10	5
2. A 20 year old women with AIDS presented with a painless Non pruritic erythematous lesions on the neck and the hard palate. Which of the following is likely to be the causative organism? a) Cytomegalovirus b) Epstein – Barr virus c) Human herpes virus d) Human Immunodeficiency virus	5	10	5
3. A Cholecystectomy was performed on a 50 year old female and as the wound was not healing properly she was asked about her diet. Though she consumed a diet high in protein she did not eat fruits or vegetable. Which of the following is the most likely cause for the poor wound healing? a) Decreased synthesis of granulation tissues			(PTO)

b) Decreased synthesis of type III collagen
c) Decreased tensile strength of collagen
d) Defect in fibrillin in elastic tissue 5 10 5

4. A centrally located lung mass from a 60 year old chronic smoker shows a tumour composed of densely packed small round to spindle cells with numerous mitoses and areas of necrosis. Which of the following endocrinopathies is associated with this type of tumor?
    a) Carcinoid syndrome
    b) Hypercalcemia
    c) Polycythemia
    d) Inappropriate secretion of Antidiuretic hormone 5 10 5

IV. Very Short Answers :

1. What is kit gene? 1 4 2
2. What is Tumour lysis Syndrome? 1 4 2
3. What is Kernicterus? 1 4 2
4. Differentiate Haematuria and Hemoglobinuria 1 4 2
5. What are the factors that evoke acute inflammation on the gall bladder? 1 4 2
6. What is the association between interstitial cells of Cajal & GISTs. 1 4 2
7. What is the significance of circulating tumour cells in the blood of patients with breast carcinoma? 1 4 2
8. What is the inheritance pattern in autosomal dominant Disorders 1 4 2
9. What is the mechanism underlying increasing maternal age causing fetal trisomy 1 4 2
10. What are second malignancies? Categorize them 1 4 2

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(LC 114) **APRIL 2013** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

GENERAL PATHOLOGY

Q.P. Code : 202011

Time: Three Hours **Maximum: 100 marks**

I. Essay: **(2X10=20)**

1. Define embolism. What are the types of emboli? Discuss the etiopathogenesis and morphology and clinical features of each in detail.

2. Classify immunodeficiency syndromes. Name the genetically determined immunodeficiences. Write briefly about x-linked agammaglobulinemia (Bruton's agammaglobulinemia).

II. Short Questions: **(8X5=40)**

1. Pathogenesis of brain abscess.
2. What is xeroderma pigmentosum?
3. Principle of fluorescent in-situ hybridization.
4. Phases of cutaneous wound healing.
5. Apoptosis in health land disease.
6. Heparin induced thrombocytopenia.
7. Disorders of Jak2 mutation.
8. Consequences of staphylococcal infections.

III. Reasoning Out: **(4X5=20)**

1. 25 years old male who was HIV positive presented with multiple red to purple papulo nodular lesions in the lower extremeties which slowly increased in size.
    a. What is the lesion?
    b. What is the causative organism?
    c. What is the role of HIV & Cytokines in this lesion?

2. 30 years old male presented with thickening of ulnar, peroneal nerves and multiple papules and nodules over the face.
    a. What is your probable diagnosis?
    b. What will the nerve biopsy show in this condition?
    c. Name the special stain used to confirm the diagnosis?

3. 6 years old male presented with posterior mediastinal mass and multiple axillary nodes with bone pain. Biopsy from the mass showed small round cells with finely fibrillar matrix.
    a. What is your diagnosis?
    b. What is the cause of bone pain?
    c. Enumerate the differential diagnosis?

(PTO)

4. 5 years old boy presented with periorbital edema and severe proteniuria. His serum cholesterol was raised.

    a. Name the condition.
    b. What is the pathophysiology of edema in this condition?

IV. Very Short Answers: (10X2=20)

1. What is Warburg effect?
2. Name the leucocyte receptors.
3. What is the role of Vitamin-A in epithelial metaplasia?
4. What is the characteristic triad in Wegener granulomatosis.
5. Changes in aging heart.
6. What is smoldering myeloma?
7. Give example for a choristoma.
8. Which hemoparasite resembles ring stage of P.falciparum?
9. What type of lymphomas occur in H-pylori infection?
10. What is red bile?

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[LD 114] **OCTOBER 2013** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

GENERAL PATHOLOGY

Q.P. Code : 202011

Time: Three Hours **Maximum: 100 marks**

I. Essay: **(2 x 10 = 20)**

1. Describe the pathology of acute myocardial infarction.
2. Discuss the pathology of syphilis.

II. Short Questions: **(8 x 5 = 40)**

1. Acute inflammatory response
2. Pathogenesis of oedema
3. Atheroma
4. Asbestosis
5. Gatekeeper genes
6. Primary tuberculosis
7. Risk factors for carcinoma of the urinary bladder
8. Transforming infections

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

1. A 25 year-old-woman seeks consultation as she is concerned that several members of her family have been affected by the onset of progressive loss of mental function and motor coordination and choreoathetosis when they reach middle age. Genetic studies have shown that some of these individuals have CAG trinucleotide repeat mutations. Which of the following sites are likely to be grossly abnormal in these affected persons?

   a. Caudate nucleus
   b. Basal ganglia
   c. Amygdala
   d. Hippocampus

[PTO]

2. A 19-year-old girl with a height of 135 cm, webbed neck and poorly developed secondary sexual characteristics has a continuous murmur heard over both the front of and back of the chest. She had claudication pain and coldness of her extremities. Which of the following cardiovascular abnormalities is she most likely to have?

a. Mitral stenosis
b. Coarctation of the aorta
c. Patent ductus arteriosus
d. Atrial septal defect

3. The following findings were noted at autopsy ina 49-year-old woman with a history of atrial fibrillation The heart was enlarged with vegetations along the line of closure of the mitral valve with partial fusion of the leaflets and thickened,shortened chordae tendineae. The left atrium was enlarged and contained a mural thrombus. Which of the following conditions could she have had?

a. Marantic endocarditis
b. Rheumatic carditis
c. Infective endocarditis
d. Sytemic lupus erythematosus

4. A 23 -year-old man football player falls and hits the right side of his head against a bench. He gets up and resumes play. He collapses about 40 minutes later. Radiology reveals a convex area of hemorrhage centered in the right parietal region. His condition is most probably due damage to which of the following vessels ?.

a. Cavernous sinus
b. Carotid artery
c. Middle meningeal artery
d. Anterior cerebral artery

IV. Very Short Answers: **(10 x 2 = 20)**

1. Neonatal hyaline membrane disease
2. Knudson’s two-hit hypothesis
3. Two paraneoplastic syndromes and the tumours associated with them
4. Haemorrhagic infarcts
5. Gas gangrene
6. Severe acute respiratory syndrome
7. Hyaline change
8. Radiation pneumonitis
9. Diseases with multifactorial inheritance
10. Healing by second intention

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[LE 114] **APRIL 2014** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION
BRANCH III – PATHOLOGY
GENERAL PATHOLOGY
Q.P. Code :202011

Time : Three Hours **Maximum : 100 marks**

I. Essay: **(2X10=20)**

1. Enumerate the causes of cell injury. Discuss the morphologic changes in cell injury culminating in necrosis or apoptosis.

2. Discuss the pathogenesis of viral oncogenesis with examples.

II. Write short notes on: **(8X5=40)**

1. Carcinoid syndrome.
2. Pathologic calcification.
3. Pathogenesis of fatty liver.
4. Write briefly on Klienfelter's syndrome.
5. Mechanism of angiogenesis.
6. Leukocytoclastic vasculitis.
7. Write briefly on defects in leucocyte function.
8. Isoenzymes as tumor markers.

III. Reasoning Out: **(4X5=20)**

1. 18 years old boy presented with fever of unknown origin, fatique and generalized lymphadenopathy. His peripheral smear showed lymphocytosis with atypical lymphocytes.

    a. What is your probable diagnosis?
    b. What is the specific antibody test to confirm your diagnosis?

2. 30 years old male smoker presented with symptoms of cough with hemoptysis. X-ray chest showed a mass lesion in the hilum of left lung. His serum calcium levels were elevated.

    a. What is your diagnosis?

b. What is the cause for hypercalcemia?

3. New born baby had flat to elevated reddish irregular lesions on the face.

    a. What is the nature of lesion?
    b. Name the hereditary syndrome associated with this condition.

4. 15 year old short statured female had webbing of neck, low posterior hair line and pigmented nevi with failure to develop secondary sex characteristics.

    a. What is the syndrome?
    b. What is its molecular pathogenesis?
    c. What is the tumor that they are prone to develop?

IV. Very Short Answers: **(10X2=20)**

1. What is the translocation in Burkitt lymphoma?
2. Name one non-metastasizing malignant tumor.
3. What is the reason for decrease in tears and saliva in sicca syndrome?
4. Name the erythropoietin producing tumors.
5. Name the carcinogens in tobacco smoke.
6. What is the gross appearance of fat necrosis in the mesentry?
7. What are myelin figures?
8. Name the mononuclear phagocyte of the bone.
9. What are the diseases caused by α_1–antitrypsin deficiency?
10. What are “Clue cells”?

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[LF 114] **OCTOBER 2014** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II - GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 marks**

I. Essay: **(2 x 10 = 20)**

1. Discuss the cytogenetic disorders involving autosomes and sex chromosomes.

2. Discuss the etiopathogenesis of thrombosis. Enumerate the hypercoagulable pathologic conditions and discuss in detail about them.

II. Write short notes on: **(8 x 5 = 40)**

1. Free radical injury.
2. Growth factors in wound healing.
3. Metaplasia of FGT.
4. Immunology of TB.
5. Sudden infant death syndrome.
6. Recent concepts in pathogenesis of shock.
7. Prion disease.
8. Precursor proteins of amyloid.

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

1. 25 years old male presented with matted cervical lymph nodes and evening rise of temperature. His ESR was 60 mm / hr with lymphocytosis.
   A. The diagnostic feature in cervical node biopsy would be
      a. Monotonous sheets of atypical lymphocytes.
      b. Collar stud abscess.
      c. Caseating granuloma.
      d. Eosinophilic abscess.
   B. Write about the pathomorphology of the disease.

2. 35 year old lorry driver presented with frequent diarrhea , productive cough and loss of weight. On investigation there was reduction in CD4 count.
   A. What is your diagnosis?

B. What is the cause of diarrhea?
C. What is the pathogenesis of the above disease?

3. A three year old boy presented with loin mass and hematuria .
   A. What is your diagnosis?
   B. What are the genetic alterations in this conditions?
   C. Mention the syndromes associated with this condition.

4. 12 year old boy presented with short stature, bone pain and beaded ribs
   A. What is your diagnosis?
   B. What is the pathophysiology of this condition?

IV. Very Short Answers: **(10 x 2 = 20)**

1. Chronic granulomatous disease.
2. Caisson disease.
3. Effects of hyperthermia.
4. Werner syndrome.
5. Fibrillar collagens.
6. Thromboplastin.
7. FMR gene.
8. Spectral karyotyping.
9. Common sites of invasive candidiasis.
10. Erythema infectiosum.

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[LG 114] **APRIL 2015** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code : 202011

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions in the same order.

I. Essay: **(2 x 10 = 20)**

1. Discuss in detail the mechanisms involved in transplant rejection. Give an account of methods of improving graft survival.

2. Describe the molecular basis of cancer and discuss the role of proto oncogenes in neoplasia.

II. Write Short notes on: **(8 x 5 = 40)**

1. Structure of basement membrane.
2. Von gierke's disease.
3. Angiogenesis in neoplasia.
4. HLA antigens and disease.
5. Primary immunodeficiency syndromes.
6. Opportunistic fungal infections.
7. Fragile X syndrome.
8. Connective tissue remodeling.

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

1. 2 year old boy presented with hepatosplenomegaly, CNS involvement and muscle wasting. Liver biopsy was done and frozen section with Fat Stain confirmed the diagnosis.

   A. What is your diagnosis?
   B. What is the pattern of inheritance?
   C. What is the morphology?

2. 55 / F with H/ O hysterectomy at the age of 42 was given HRT.

   A. What are the merits and demerits of HRT?

3. 4 / m with BMI - 12 kg / m2 with stunted growth and muscle wasting.

   A. What is your diagnosis?
   B. What is the differential diagnosis?
   C. What is the morphology of various organs?

3. 4 / m with BMI - 12 kg / m2 with stunted growth and muscle wasting.

   A. What is your diagnosis?
   B. What is the differential diagnosis?
   C. What is the morphology of various organs?

4. 1 month old child presented with intestinal obstruction due to meconium ileus and prolonged neonatal jaundice. Mother of the child was complaining of abnormal sweating in the child.

   A. What is your diagnosis?
   B. What is the genetic defect in this condition?
   C. What is the morphology of various organs?

IV. Very Short Answers: **(10 x 2 = 20)**

1. Stains for fibrin.
2. Chaperones.
3. Homeobox proteins.
4. Chokes and bends.
5. Lyon hypothesis.
6. Epigenetics.
7. Adiponectin.
8. Nramp 1 gene and TB.
9. Favourable prognostic factors in neuroblastoma.
10. Double stranded breaks.

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[LH 114] **OCTOBER 2015** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code : 202011

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions

I. Essay: **(2 x 10 = 20)**

1. Describe the significance of telomere shortening and cell senescence. Discuss in detail the modes of detection and significance of senescent cells.
2. Discuss in detail the mechanisms of angiogenesis. Describe the growth factors and receptors involved in angiogenesis and regulation of angiogenesis.

II. Write Short notes on: **(8 x 5 = 40)**

1. Free radical injury.
2. Process of leukocyte migration and role of adhesion molecules.
3. Intracellular accumulation of proteins.
4. Familial Hypercholestrolemia.
5. Array based genomic hybridization.
6. Thermal injury.
7. Neuroblastic tumors.
8. Atypical mycobacterial infections.

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

1. 34 / M who was a non vegetarian (H/O taking beef) presented with sudden onset of convulsions and on imaging was found to have space occupying lesion in the right frontal lobe.

   A. What is your diagnosis?

   B. What is the etiopathogenesis of the above disease?

2. 40 / M presented with massive splenomegaly.
   Discuss the differential diagnosis.

[PTO]

3. 38 / F presented with acute abdominal pain and was diagnosed as torsion ovary What is the cause for the characteristic morphology in torsion?

4. 28 / F had H/O abortion by a local person developed fever, tachycardia, BP of 60 / 40 mm Hg and excessive bleeding PV. APTT was 25 min and platelet count was 40000 / mm^3

   A. What is your diagnosis?

   B. What is the etiopathogenesis of the above disease?

IV. Very Short Answers: **(10 x 2 = 20)**

1. Shox gene.
2. ER stress.
3. Immune granuloma.
4. DiGeorge syndrome.
5. Serum amyloid associated protein.
6. Class II HLA molecule.
7. Gaucher cell.
8. Mosaicism.
9. Immune reconstitution inflammatory syndrome.
10. Special stains for amyloid.

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[LI 114] APRIL 2016 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 Marks**

I. Essay: **(2 x 10 = 20)**

1. Laboratory diagnosis of cancer.
2. Macrophages in health and disease.

II. Write short notes on: **(8 x 5 = 40)**

1. Wegener's granulomatosis.
2. Angiogenesis in inflammation and repair.
3. Chronic granulomatous disease.
4. Pulmonary embolism.
5. Tumour suppressor genes.
6. Primary immuno deficiency states.
7. Stem cells in tissue homeostasis.
8. Secondary pulmonary tuberculosis.

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

1. A 45 year old lady gave birth to a baby with flat facial profile, oblique palpebral fissures and epicanthic folds. What is the probable diagnosis? Discuss the genetic aspects, clinical features and ways of prevention.

2. A 45 year old male presented with PUO and pain in right hypochondrium. USG showed SOL liver. Discuss the differential diagnosis. Add a note on special stains which may be useful.

3. A 12 year old boy was administered PPD injection intracutaneously. The boy developed reddening and induration at the site of injection after 12 hours. What is the pathology of this reaction?

4. A 2 year old child presented with abdominal mass, fever and weight loss. The child had elevated urine levels of VMA and HVA. What is the probable diagnosis? Discuss the prognostic factors.

IV. Very Short Answers: **(10 x 2 = 20)**

1. Lipofuscin pigment.
2. Enumerate oncogenic viruses.
3. 2 pathways for initiation of apoptosis.
4. Karyotype banding techniques.
5. Hydatid sand.
6. Neutrophil granules.
7. Role of calcium in cell injury.
8. Lymphedema.
9. Scurvy.
10. Genetic disorders associated with maternal inheritance.

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[LJ 114] OCTOBER 2016 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 Marks**

I. Essay: **(2 x 10 = 20)**

1. Classify inflammation. Discuss the cardinal signs of inflammation and vascular events in acute inflammation.

2. Explain the pathogenesis of lysosomal storage disorders and discuss about glycogen storage disorders.

II. Write short notes on: **(8 x 5 = 40)**

1. Metastasis.
2. Microfilaments.
3. Cystic fibrosis.
4. Recent advances in karyotyping techniques.
5. Functional leucocyte abnormalities and disorders.
6. Fat embolism.
7. Tumour markers.
8. Virchow's Triad.

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

1. A 35 year old alcoholic presented with acute abdominal pain. His serum enzyme levels were elevated. What is the probable diagnosis? What is the morphological change seen in peritoneal biopsy (both gross and microscopy)?

2. A 35 year old male hailing from Kumbakonam with complaints of fever with chills and non pitting edema of the lower limbs. What is the investigation you will advise? Discuss the pathology of the lesion with pathogenesis, clinical features and morphology of the disease.

3. A 55 year old male who underwent renal transplant two months ago and on immunosuppressive therapy complaints of oliguria and haematuria? On examination he had azotemia. Patient did not survive. What is the process occurring? What is the morphology?

4. 19 year old female admitted with history of abortion carried out by native methods with fever, rigor, cold clammy skin and falling Blood pressure. Discuss the pathophysiology of the condition.

IV. Very Short Answers: **(10 x 2 = 20)**

1. Causes of nonimmune Fetal Hydrops.
2. Difference between Marasmus and Kwashiorkor.
3. Hypervitaminosis A.
4. Antioxidants.
5. Anaphylatoxins.
6. Acute phase proteins.
7. Phase of cell cycle.
8. Infarction and types of infarct.
9. Types of mutations.
10. Warthin-Finkeldey cells.

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[LK 114] MAY 2017 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 Marks**

I. Essay: **(2 x 10 = 20)**

1. Define shock. Classify shock. Discuss pathogenesis, pathology and complications of septic shock.

2. Classify carcinogens. Discuss chemical carcinogens.

II. Write short notes on: **(8 x 5 = 40)**

1. Turner syndrome.
2. Theories of cellular aging.
3. Stains for fungi.
4. Neimann Pick disease.
5. Gas embolism.
6. Arachidonic acid metabolites.
7. Collagen in wound healing.
8. Paraneoplastic syndromes.

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

1. A 25 year old woman developed sneezing and wheezing after a walk in the park with many flowering plants. What is the type of hypersensitivity reaction? Discuss the pathology of the same.

2. A 45 year old man working in a factory producing car batteries came with complaints of fatigue, weakness, numbness. And tingling sensation in fingers and toes. What is the probable diagnosis? Discuss the clinical features and morphology of the condition.

3. A newborn male baby of a diabetic mother was delivered by Caesarian section. After a few minutes of normal breathing, the baby developed difficulty in breathing and cyanosis. Baby died after 2 days as therapy failed. Discuss the morphology of lungs at autopsy and pathophysiology leading to it.

4. A 50 year old man returned to India after working in Egypt for 10 years. He developed haematuria and obstructive uropathy. Bladder biopsy was done. What is the possible findings in biopsy of the bladder in this patient? Discuss the pathology and complications of the disease.

IV. Very Short Answers: **(10 x 2 = 20)**

1. Diet and cancer.
2. Tuberculous lesions of skin.
3. Epi genetics in cancer.
4. Ferruginous bodies.
5. Antibodies pathognomonic of SLE.
6. Lines of Zahn.
7. 4 examples of intracellular accumulation of protein.
8. Chorionic villus sampling.
9. Nuclear changes in necrosis.
10. Enumerate 4 autosomal dominant inherited cancer syndromes.

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[LL 114] OCTOBER 2017 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 Marks**

I. Essay: **(2 x 10 = 20)**

1. Write in detail about etio-pathogenesis, types, morphological changes and stages of shock.

2. Enumerate tumors of child hood and describe in detail about neuroblastoma.

II. Write short notes on: **(8 x 5 = 40)**

1. Describe in detail about stem cells, types and role of stem cells in homeostasis.
2. Enumerate and brief about role of free radicles in cell injury.
3. Actions of Caspase 3.
4. Write briefly about Para-neoplastic Syndrome.
5. Endogenous pigments.
6. Mechanism of rejection.
7. Occupational Cancers.
8. p53 and its role in carcinogenesis.

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

1. A 25 Years old male, had met with an accident and had severe bruises in hand. What is the type of inflammation he is likely to express and write about outcome of this inflammation?

2. A sea diver got admitted with difficulty in breathlessness and signs of asphyxia, what is the diagnosis, discuss about pathogenesis and sequences of the lesion and mention about other types similar lesions?

3. An elderly lady about 45 years delivered a female baby with lymphedema of extremities and cubitus valgus. Karyotyping revealed 45X. What is the diagnosis, what are the genetic abnormalities, structural changes you expect? Describe in detail about molecular pathogenesis.

4. A 30 year old lady came with the breast swelling who had a elder sister died of breast cancer? What is the possible diagnosis? How will you confirm the diagnosis and describe in detail about genes involved.

IV. Very Short Answers: **(10 x 2 = 20)**

1. Role of inflammatory mediators in reactions of inflammation.
2. Leukocyte defective function in inflammation.
3. Serological tumor markers.
4. Occupational Exposure and diseases associated with it.
5. Non skeletal effects of Vitamin D.
6. Write briefly about Hyperplasia.
7. Describe about Pigments.
8. Features of autosomal dominant disorders.
9. T Cell Mediated disease.
10. Chemical Carcinogens.

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[LM 114] MAY 2018 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code :202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Discuss the mechanism of Autoimmune diseases. Describe the etiopathogenesis, morphology and lab diagnosis of Systemic Lupus Erythematosus.

2. What are Tensin proteins? Discuss the functional activity of Tensins and its role in carcinogenesis.

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

1. Radiation carcinogenesis.
2. Non coding RNAs.
3. Sirtuins.
4. Oochronosis.
5. T cell receptor.
6. Ig G4 related diseases.
7. Mast cells.
8. Role of cytosolic calcium in cell injury.
9. Atypical Mycobacteria.
10. Amniotic fluid embolism.

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

1. 2 year old child presented with vomiting, hepatosplenomegaly and progressive deterioration of psychomotor function. Retinal cherry red spot was observed. Liver biopsy was done. Under light microscopy hepatocytes and Kupfer cells had a vacuolated appearance. Under Electronmicroscopy, the vacuoles appeared to be engorged lysosomes containing Zebra bodies. What is the diagnosis and how will you confirm it?

2. 25 year old female in labour developed sudden severe dyspnea, cyanosis, shock, siezures and died. On autopsy, squamous cells, mucin and lanugo hair were found in her pulmonary vasculature. What is the diagnosis? Describe the other findings that could be seen.

3. 40 year old male patient with Mitral valve prolapse was unusually tall with long extremities, lax joint ligaments and his thumb could be hyperextended back to wrist. His eyes showed bilateral dislocation of lens. What would be the diagnosis? Describe its pathogenesis and other findings that could be seen.

4. 20 year old male patient with AIDS had progressive loss of visual acuity in both eyes. CD4 T cell count was less than 50 per microliter. Intraocular pressure was normal Retinal examination showed white areas with indistinct borders. Which is the most likely pathogen causing retinal lesion? Enumerate the other opportunistic infections that can occur in AIDS.

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[LN 114] OCTOBER 2018 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Enumerate the Cytogenetic disorders involving autosomes and sex chromosomes. Discuss in detail about Turner syndrome. Write briefly about Hermaphroditism.

2. Discuss about Autoimmune Diseases. Describe the mechanism of Autoimmune diseases. Write in detail about morphology of Systemic Lupus Erythematosus.

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

1. Cellular aging.
2. Pathologic calcification.
3. Cystic fibrosis.
4. Leukotrienes.
5. Xeroderma pigmentosum.
6. Tay-Sachs Disease.
7. Marfan syndrome.
8. Tumor markers.
9. Anti phospholipid antibody.
10. Vitamin A deficiency.

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

1. A known case of multiple myeloma patient developed renal failure. What is the probable cause? Discuss the special stains and histopathological findings used for diagnosis.

2. 6 years old male presented with posterior mediastinal mass and multiple axillary nodes with bone pain. Biopsy from the mass showed small round cells with finely fibrillar matrix. Discuss the differential diagnosis for this case.

3. A 23 year old football player falls and hits the right side of his head against a bench. He gets up and resumes play. He collapses about 40 minutes later. Radiology reveals a convex area of hemorrhage centered in the right parietal region. Discuss the probable diagnosis.

4. 40 year old male who is a contortionist is able to bend his thumb backward to touch the forearm and bend his knee forward to create almost a right angle? Discuss the underlying condition in this person.

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[LO 114] MAY 2019 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Enumerate the Lysosomal storage diseases. Discuss the pathogenesis of Lysosomal storage diseases. Write about Niemann-Pick disease.

2. Write about Immunologic deficiency syndromes. Discuss about the Primary Immunodeficiencies and Describe X-linked Agammaglobulinemia of Bruton.

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

1. Gaucher disease.
2. Anaphylatoxins.
3. Thermal injury.
4. Sudden infant death syndrome.
5. Cell cycle.
6. Fat embolism.
7. Rickets.
8. Heat shock proteins.
9. Growth factors in wound healing.
10. Karyotyping techniques.

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

1. A 26 year old women with third degree burns developed septic shock. Within 24 hours she was bleeding from all needle puncture sites, with extensive ecchymoses, petechiae and gastro intestinal bleeding. Lab studies showed Hb-6gm/dl, platelet count 64000/cu mm, PT 20 seconds, PTT 50 seconds and D-dimer positive. Discuss the pathology of this condition.

2. A known patient of HIV developed multiple lymph nodes and abnormal peripheral smear findings. What is the complication involved? What is the lymph node morphology?

3. A 45 year old lady gave birth to a baby with flat facial profile, oblique palpebral fissures and epicanthic folds. What is the probable diagnosis? Discuss the genetic aspects and clinical features.

4. 1 month old child presented with intestinal obstruction due to meconium ileus and prolonged neonatal jaundice. Mother of the child said her infant tastes salty. What is your diagnosis? What is the genetic defect in this condition? What is the morphology of various organs?

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[LO 114]

[LP 114] OCTOBER 2019 **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Discuss the pathogenesis of Antibody mediated rejection of solid organs. Discuss the Histopathology, Immunohistochemical and Electronmicroscopic studies in Renal Antibody mediated rejection.

2. Discuss in detail Microbial carcinogenesis. Describe the various pathogens, Pathogenesis and tumours associated with them.

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

1. Paraneoplastic syndromes.
2. Telomerase.
3. Fracture healing and its complications.
4. Necroptosis.
5. Genomic Imprinting.
6. Dendritic cell.
7. DNA finger printing.
8. Toll like receptors.
9. Immunologic Tolerance.
10. Opportunistic infections in AIDS.

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

1. 3 year old child presented with ataxic gait, siezures, mental retardation and inappropriate laughter. What would be the diagnosis and describe the underlying genetic abnormality?

2. 25 year old female presented with fever, arthralgia, pleuritic chest pain, photosensitivity and characteristic erythema of the face along the bridge of nose and cheeks ("butterfly rash"). She had hematuria and proteinuria and her peripheral smear examination showed anaemia and thrombocytopenia. What would be the diagnosis and describe its pathogenesis.

3. 2 year old child presented with seizures, decreased pigmentation of hair and skin, eczema, mental retardation and had a strong mousy odour. What would be the diagnosis? What is the mode of inheritance and underlying biochemical abnormality?

4. 30 year old female patient with ankylosing spondylitis had moderate splenomegaly and hepatomegaly. Patient died due to road traffic accident. On autopsy, cut section of spleen showed "tapioca" like granules apart from other findings. Histopathology revealed amorphous eosinophilic substance involving splenic follicles. What would be the diagnosis? Describe the pathogenesis and special stains that could be used to confirm the nature of the material.

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[LQ 114] AUGUST 2020 **Sub. Code: 2011**

(MAY 2020 SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. What is Amyloidosis? What are the causes of primary and secondary amyloidosis? What are the organs affected and their morphological changes? What are the sites of biopsy? What are the special stains and tests done to diagnose it?

2. Write about Bio-terrorism and categorization. What are the emerging infectious diseases and write about the epidemiological strategies on how to control them in brief.

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

1. Warburg effect
2. SIDS
3. Tonofilaments
4. HLA in health and disease
5. Ochronosis
6. Effects of hyperthermia
7. Chaperons
8. What is “Cigarette Pack Years”
9. BRAF mutations and malignancies involved
10. Procalcitonin

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

1. A26 year old female primi admitted to labour ward with labour pain and prolonged labour. On table patient developed breathlessness and developed seizures and died. Autopsy was done, sections were taken from lungs.
   a) What is your probable diagnosis for the cause of death in this patient?
   b) What are the morphological changes in the lung?
   c) What are the special stains you would like to use?
   d) What altered hematological parameters you anticipate?
2. A 6 month old infant had abdominal mass weighing 1 Kg with multiple nodules on the skin, presented with fever and weight loss. Child also had proptosis and bladder dysfunction.
   a) What is your probable diagnosis?
   b) What are the prognostic markers and the abnormal biochemical findings?
   c) What is the probable stage of the disease at this presentation?
   d) What is the morphology?
   e) What are the genetic mutations?
3. A 30 year old male, fisherman residing at Thoothukudi close to industrial area, where industrial wastes were let out into the sea and whose family consumed fish. He presented with deafness, tremors, gingivitis and behavioural disorders.
   a) What is your probable diagnosis?
   b) What are the two major system involved in this disease?
   c) What are the various sources of exposure leading to this disease?
   d) Which are the previous major disasters occurred due to this disease?
4. A 6 year old male child presenting with severe malabsorption, abdominal distension, poor weight gain, large foul smelling stools with repeated respiratory infections came to the paediatric OP. On examination showed hepatomegaly
   a) What is your probable diagnosis?
   b) What is the diagnostic test done with its significance?
   c) What are the genetic mutations observed?
   d) How do you classify the disease based on the mutations?

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[LS 114] **NOVEMBER 2020** Sub. Code: 2011

(OCTOBER 2020 SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Classify autoimmune diseases. Write about mechanism of autoimmunity. Discuss pathogenesis and pathology of systemic lupus erythematosus.
2. Morpho molecular profile in carcinoma in first three common malignancies.

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

1. Mitochondrial myopathy.
2. Mytokeratin
3. Thrombi
4. Proliferation markers
5. Invasive mucor mycosis
6. Myofibroblast
7. Ischemic hypoxic encephalopathy
8. Angiogenesis in inflammation and repair
9. Immunology in leprosy
10. Gonadoblastoma

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

1. 50 year old male presented with dyspnea some times as orthopnea that is worse at night. There is a long history of alcohol consumption. Chest x ray showed an enlarged heart and bilateral pleural effusion. What is the most likely diagnosis discuss the etiopathogenesis and pathology.

2. 28 year old female presenting with fatigue, abdominal pain and hypotension. Baseline investigations were normal. What is the most propable diagnosis? Discuss the etiopathogenesis and pathology.

3. 4 year old male child presented with easy bruising petechiae and Hepatosplenomegaly. CBC showed leucocytosis anemia and thrombocytopenia peripheral blood smear showed cells with a high ncr and fine chromatin. What is the probable diagnosis? Discuss etiopathogenesis, special stains and immunophenotyping prognostic stratification.

4. 57 year old male presented with jaundice and ascites. Impaired liver function tests. He had a prior history of blood transfusion. What is the most probable diagnosis? Discuss diagnostic workup and pathology of liver insult.

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[LS 114]

[MD 0721] JULY 2021 **Sub. Code: 2011**

(MAY 2021 SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Classify hypersensitivity disease discuss nephritic glomerulonephritis and pathology of acute and rapidly progressive glomerulonephritis.

2. Enumerate myopathies. Discuss primary myopathies. Describe about muscular dystrophy.

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

1. DNA finger printing.
2. Adhesion molecules.
3. Cell senescence.
4. Healing in internal organ inflammatory pathology.
5. Pulmonary embolism.
6. Hemozoin.
7. Hepato billiary cystic lesions.
8. Protein energy malnutrition.
9. Wernicke encephalopathy.
10. Appendicial carcinoid.

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

1. 30 year old male with weight loss fever and shortness of breath ct showed multifocal bronchocentric consolidation results of infectious workup and bronchoscopy were negative . Followup ct after a tapering course of steroids shows resolution discuss about lung lesion.

2. 13 year old female treated by chemo for lymphocytic lymphoma with meningeal relapse . Alogenic bone marrow transplantation performed at 54^{th} day she complained of intermitten abdominal pain diarrhoea vomiting skin rash what is the probable diagnosis and histopathology.

3. 35 year old woman complaints of progressive dyspnea fatigue and cough low grade fever no organomegaly chest x ray showed bilateral hilar lympadenopathy but no lung or mediastinal masses biopsy of one of the skin nodule showed noncaseating granuloma . What is the probable dianosis and discuss differential diagnoses.

4. 35 year old woman omplaints of headache visuai abnormality and presented with amenorrhea and galloctorrhea discuss the pathology.

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[MD 0721]

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

[MD 1121] NOVEMBER 2021 **Sub. Code: 2011**

(OCTOBER 2021 SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Define and classify hyper sensibility reactions. Discuss the etiopathogenosis and pathology of Type III hyper sensibility.

2. Define apoptosis. Discuss the causes, pathophysiology and biochemical features of apoptosis.

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

1. Telomere.
2. Defects in chemotaxis.
3. Pathological calcification.
4. Cardiac edema.
5. Gene cloning – merits and demerits.
6. Mast cell.
7. Glycogen storage disorder.
8. Aspergillosis.
9. Hazards of smoking on health.
10. Cystic fibrosis.

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

1. A 4 year old boy presented with right side abdominal mass with haematuria, hypertension and moderate anemia. CT showed solid mass with cystic areas in the lower pole of right kidney measuring 12 x 9 cm
    a) What is the probable diagnosis?
    b) Write in brief the prognostic factors, histological patterns and IHC markers.
    c) What are the syndromes associated?

2. A 35 year old elderly primi came to the OP with a one year old cheerful child presenting with delayed milestones and low IQ
    a) What is the probable diagnosis?
    b) Discuss its pathophysiology, molecular/cytogenetics and complications.

3. A 6 year old African child presented with history of night sweats and distorted jaw
    a) What is the probable diagnosis?
    b) Name the virus which predisposes to the above condition?
    c) Name the other diseases it can cause?
    d) Write in brief the recent concepts of carcinogenesis.

4. A 15 year old boy fell down and bruised his left knee while playing. On third day the wound appeared dark pink, soft and bumpy
    a) Name the tissue formed and what are the factors which affect wound healing.
    b) Describe in brief current concepts of mechanisms of wound healing.

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[MD 1121]

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

[MD 0522] **MAY 2022** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Write in detail about various types of transplants and pathological changes in rejection of tissue transplants.

2. Discuss in detail about mechanisms of cell injury.

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

1. Write in detail about cell adhesive proteins, types and diseases associated with them.
2. Stem cells and their significance.
3. Brief write about role of cell signaling.
4. Briefly describe about Mutations.
5. The Warburg effect.
6. Types of collagen and diseases associated with it.
7. Write about Immunological Tolerance.
8. Transplant of hematopoietic cells.
9. Evasion of Host defense.
10. Lab diagnosis of Cancer.

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

1. A 40 Year old man, painter by profession, presented with wrist drop and features of chronic renal failure.
    a. What is the most possible diagnosis and pathological changes.
    b. What is the toxicity involved?
    c. Congenital deformities associated with this condition.
    d. Write about complications.

2. A 20 year old male met in with an accident and sustained fracture of Lt. leg and got admitted and developed dyspnoea.
    a. What are the possible cause for development of dyspnoea?
    b. Name other similar conditions.
    c. Write in detail about fracture healing.
    d. Factors influencing healing.

3. A 25 year old male presented with lower abdominal pain, weight loss, recurrent lung infection & steatorrhoea. USG revealed intussception
    a. What are the probable diagnosis?
    b. Pathogenesis of the condition.
    c. Morphology of organs involved.
    d. Characteristics of lung infection associated.

4. A 15 year old boy fainted and fell down after an injection of antibiotics.
    a. What is the diagnosis?
    b. What are the other type of reaction in this category?
    c. Write in detail about pathophysiology of this condition?
    d. Write about morphological changes expected.

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[MD 0522]

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

[MD 1022] **OCTOBER 2022** **Sub. Code: 2011**

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Write in detail about Etio-pathogenesis, types, morphological changes and stages of shock.

2. Write in detail about cytoskeleton structures and cell to cell interaction.

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

1. Course and changes in cell injury.
2. Gaucher disease.
3. Anti phospholipid Syndrome.
4. Write briefly about Para-neoplastic Syndrome.
5. Endogenous pigments.
6. Toll- Like Receptors.
7. Tumor suppressor Genes.
8. BRAF, RAS mutations and their significance.
9. Genomic Instability.
10. Autophagy.

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

1. A 60 Years old male, with history of long term hemodialysis, developed carpel tunnel syndrome. Arthroscopy reveals, deposit of amorphous material with compression of median nerve.
    a. Most probable diagnosis.
    b. Morphological features of the lesion.
    c. Stains for confirmation & appearance.

… 2 …

2. A sea diver got admitted with difficulty in breathlessness and signs of asphyxia.
    a. What is the probable diagnosis?
    b. Discuss about pathogenesis and sequences of the lesion.
    c. Mention about other types similar lesions.

3. An elderly lady about 45 years delivered a female baby with lymphedema of extremities, cubitus valgus and karyotyping revealed 45XXY.
    a. What is the diagnosis?
    b. What are the genetic abnormalities?
    c. What are phenotype structural changes you expect?
    d. Describe in detail about molecular pathogenesis.

4. A 30 year old lady presented with lymphadenopathy, fever and rashes over palms and soles. On examination she also had silvery gray superficial erosions over oral and genital mucous membranes. HPE revealed infiltration by plasma cells.
    a. What is the probable diagnosis?
    b. Discuss about pathogenesis and sequences of the lesion.
    c. Mention about differential diagnosis.
    d. Serological tests for confirmation of diagnosis.

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[MD 1022]

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

[MD 0723] **JULY 2023** **Sub. Code: 2011**

(MAY 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Role of stem cell in tissue repair. Complications of Haematopoietic Stem Cell Transplant.
2. Enumerate and explain in brief the cellular and molecular hallmark of cancer. Discuss in detail different ways of self sufficiency in growth signals in tumor cells.

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

1. Natural killer cells.
2. Radiation injury.
3. Ehlers-Danlos syndrome.
4. Amniotic fluid embolism.
5. Adhesion molecules in inflammations.
6. Cellular aging.
7. Bioinformatics.
8. FISH.
9. Morphological changes in SLE.
10. Ubiquitin.

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

1. Young female aged 25 yrs, 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) How will you establish your diagnosis?

… 2…

2. A 30 year old underwater construction workers, who on rapid ascent to the ambient pressure presented with edema, pulmonary hemorrhage focal atelectasis and excruciating joint pain and rashes.

   a) What is your diagnosis?
   b) What is the pathogenesis?

3. 12 year old boy with skin eczema, cerebral and G.I bleed and recurrent ear infections. Lab investigation : Peripheral smear shows anemia, eosinophilia and microthrombocytopenia. Patient has elevated levels of IgE and IgA with low levels of IgM and abnormal T cell function.

   a) What is the diagnosis?
   b) What is the pathogenesis of this disease?
   c) What are the malignancies that these patients are prone to develop?

4. 39 year old woman is in her 17^{th} week of gestation. A screening ultrasound revealed foetal anomalies. A therapeutic abortion was done. Foetal autopsy was done and gross examination of the foetus showed a foot length of 2.4cms which is consistent with 17 weeks. With the foetus having prominent occiput, low set ears, micrognathia, short neck, meckels diverticulum, horshoe kidney, complex cardiac defects and rocker bottom feet. Caudal end of spinal column showed a lumbosacral myelomeningocele.

   a) What is the diagnosis?
   b) What is the chromosomal abnormality and pattern of inheritance?

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[MD 0723]

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

[MD 1223] **DECEMBER 2023** **Sub. Code: 2011**

(OCTOBER 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

PAPER II – GENERAL PATHOLOGY

Q.P. Code: 202011

Time : 3 Hours **Maximum : 100 Marks**

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

1. Discuss about the molecular basis, biochemical aspects and transmission patterns of Single Gene disorders.
2. Describe the detail about the pathogenesis of Autoimmune Disorders. Discuss about Lupus Nephritis.

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

1. Chemokines in inflammation.
2. Reperfusion injury.
3. Genomic Instability.
4. Ig G4 disease.
5. Role of Endothelium in Hemostasis and Thrombosis.
6. Cellular aging.
7. Mechanism of Homing of Cancer cells.
8. Radiation injury.
9. Bioterrorism.
10. Tissue microarray.

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

1. 35 / M presented with swelling both feet and hands.
   a) What is the pathophysiology of the swelling in feet?
   b) Classify according to the causes?
   c) What are the morphological changes in various organs?

2. 10 / M boy presented with loss of protein in visceral compartment, edema and alternating bands of light and dark colour of hair.

   a) What is your diagnosis?
   b) What are the morphologic features in various organs?
   c) What is the differential diagnosis?

3. 45 / M who underwent renal transplant surgery started developing, elevated blood urea in 4 months.

   a) What is your diagnosis?
   b) What are the causes of the underlying condition?
   c) What are the morphological changes in the Kidney?
   d) What is the role of IHC in diagnosis?

4. 17 / M was of height 6 feet and 5 inches, long tapering fingers and lax joints with exophytic warty growth on penile shaft.

   a) What is your diagnosis?
   b) What is the pathogenesis?
   c) What are the morphologic findings in other organs?

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[MD 1223]