

[KT 542]

AUGUST 2008

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Revised (Non-Semester) Regulations****Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY*****Q. P. Code : 524063*****Time : Three hours****Maximum: 100 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

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

1. What is Metastasis.
What are the different pathways of spread?
Write in detail about one of the pathways
2. Define anemia.
Discuss etiopathogenesis with blood and bone marrow picture in iron deficiency anemia.

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

1. Free radicals.
2. Wilm's tumour.
3. Klinefelter syndrome.
4. Oncogenic viruses.
5. Rhinosporidiosis.
6. Ricketts.
7. Fine Needle Aspiration Cytology
8. Leukemoid reaction.
9. Idiopathic thrombocytopenic purpura.
10. Erythrocyte sedimentation rate.

III. Short Answer Questions :**(10 x 2 = 20)**

1. What are the different types of necrosis?
2. Mention 4 factors influencing wound healing.
3. Fate of thrombi.
4. Enumerate 4 types of chromosomal rearrangements.
5. Mention 2 Examples of tumor suppressor genes.
6. Mention any 4 childhood malignancies.
7. What are red cell indices?
8. Blood picture in megaloblastic anemia.
9. Mention important investigations necessary for diagnosis of Hemophilia.
10. Define Leukemia.

[KU 542]

FEBRUARY 2009

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY
Q. P. Code : 524063

Time : Three hours**Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Define and classify oedema? Discuss Aetio-Pathogenesis and pathology of various types of oedema with examples?.
2. 40 years male H/o chronic fatigue, weight loss since 6 months. O/E pallor, marked splenomegaly+, laboratory report shows Hb 10 GM%, TC 215000/CMM. Platelets 4 laks/cmm. Answer the following:
 - a) What is your diagnosis?
 - b) What is common genetic abnormality?
 - c) Blood and Bone Marrow findings to confirm your diagnosis?
 - d) Prognosis of the condition?

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

1. Chemical mediators of acute inflammation.
2. Thrombo-embolism.
3. Pathological calcification.
4. Trisomy – 21.
5. Immune complex hypersensitivity (Type III) reactions.
6. Laboratory diagnosis of cancer.
7. Von-Willebrand's disease.
8. Haemolytic disease of newborn.
9. Grading and staging of tumors.
10. Automatic tissue processor.

III. Short Answer Questions : **(10 x 2 = 20)**

1. Difference between exudates and transudate.
2. Microscopic picture of acute appendicitis.
3. Mast cells.
4. Mention four nuclear changes in Necrosis.
5. Significance of casts in urine.
6. Anti-Coagulants.
7. Mention four indications of bone marrow aspiration.
8. Reticulocyte count.
9. Henoch – Schonlein purpura.
10. Gross appearance of Mycetoma foot.

[KV 542]

AUGUST 2009

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SECOND M.B.B.S. DEGREE EXAMINATION**Revised (Non-Semester) Regulations****Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY****Q. P. Code : 524063****Time : Three hours****Maximum: 100 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

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

1. Define shock, enumerate types of shock and discuss pathogenesis and morphological changes in shock.
2. Mention Oncogenic viruses. Describe Oncogenesis by human papilloma virus.

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

1. Tumor markers.
2. Amyloidosis.
3. Blood and bone marrow picture in B12 deficiency anaemia.
4. Types of embolism. Write on caisson disease.
5. Leprosy.
6. Evidences of haemolytic anaemia.
7. F A B classification of leukemia.
8. Mechanism of autoimmune diseases.
9. Chemical mediators.
10. Silicosis.

III. Short Answer Questions :**(10 x 2 = 20)**

1. Fate of thrombus.
2. F.N.A.C.
3. Modes of spread of tumors.
4. Draw – Megaloblast, Maxicanhat cell, Pessary cell, Macropolycyte.
5. Types of nectrosis with examples.
6. Ketone Bodies.
7. Tests for sickling.
8. Virchow's triad.
9. Differences between benign and malignant tumors.
10. Bombay blood group.

[KW 542]

FEBRUARY 2010

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY
Q. P. Code : 524063

Time : Three hours**Maximum: 100 Marks**

Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

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

1. Define Oedema. Discuss the pathophysiology of oedema.
Add a note on pulmonary oedema.
2. Define and classify Leukemias.
Describe the blood and bone marrow findings in chronic myeloid leukemia.

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

1. Phagocytosis.
2. Haematocrit.
3. Sickle cell.
4. Tumour suppressor genes.
5. Anaphylactic reaction.
6. Down's syndrome.
7. Metaplasia.
8. Kwashiorkor.
9. Mycetoma.
10. Eosinophilia.

III. Short Answer Questions :**(10 x 2 = 20)**

1. Name four causes of fatty liver.
2. State four differences between dry and wet gangrenes.
3. Define atrophy. Give two examples to physiological atrophy.
4. Describe four staining character of amyloid.
5. Microscopic appearance of lepromatous leprosy.
6. Name two opportunistic infections and two neoplasms seen in AIDS.
7. Name two human oncogenic viruses and tumours caused by them
8. Blood components prepared in a blood bank.
9. What is a Reticulocyte? Mention two causes of reticulocytosis.
10. What is cross matching?

[KX 542]

AUGUST 2010

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SECOND M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY
Q. P. Code : 524063

Time : Three hours**Maximum: 100 Marks**

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

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

1. Define inflammation.
Describe the major events of acute inflammation with a note on defective Leukocyte function.
2. Enumerate the various carcinogenic agents.
Classify the chemical carcinogens and describe the steps involved in chemical carcinogenesis.

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

1. Free Radical Injury.
2. Septic Shock.
3. Rickets.
4. Tertiary Syphilis.
5. Proteins in urine.
6. Cardiac edema.
7. Klinefelter syndrome.
8. Type I hypersensitivity reaction.
9. Factors affecting wound healing.
10. Apoptosis.

III. Short Answers Questions: **(10 x 2 = 20)**

1. Sago Spleen.
2. Paraneoplastic syndromes.
3. ESR.
4. Coomb's Test.
5. Reed Sternberg Cell
6. Hemophilia.
7. Metaplasia.
8. CVC liver.
9. Blood picture in megaloblastic Anemia.
10. CSF in tuberculous meningitis.

[KY 542]

FEBRUARY 2011

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION

Revised (Non-Semester) Regulations

Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY**Q. P. Code : 524063****Time : Three hours****Maximum: 100 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

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

1. Define Necrosis. Name the different types of necrosis.
Discuss in detail with examples the different types of necrosis.
Differentiate between Necrosis and Apoptosis.
2. A 70 year old women admitted with worsening anemia and pathological fracture of the Humerus had an ESR of 120mm in 1 hour. Her peripheral smear showed increased rouleaux formation. Xray of skull showed multiple punched out osteolytic lesions.
 - a. What is the most probable diagnosis? Write briefly on the etiopathogenesis of this disease.
 - b. Describe the Bone Marrow Changes in this disease.
 - c. Enumerate the common laboratory investigations for this disease.
 - d. Enlist the complications of this disease.

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

1. Role of Arachidonic Metabolites in inflammation.
2. Pathogenesis of Septic Shock.
3. Tumour Metastasis.
4. Mitochondrial Inheritance.
5. Etiopathogenesis of Cystic Fibrosis.
6. Anemia of Chronic Disease.
7. FAB classification of Acute Leukemia.
8. Idiopathic Thrombocytopenic purpura.
9. Transfusion Reaction.
10. Hematocrit.

III. Short Answer Questions :**(10 x 2 = 20)**

1. Give four examples for pathological calcification.
2. Give four examples for Metaplasia.
3. Mention two differences between exudates and transudate.
4. Mention two renal changes in SLE.
5. Give two examples for trace elements and their deficiency states.
6. Give four causes for iron deficiency anaemia.
7. Mention two important marrow changes in B12 deficiency.
8. Two characteristic difference between Myeloblasts and Lymphoblasts.
9. Mention two pathognomonic features of Hairy cell leukemia.
10. Mention four applications of reticulocyte count.

[KZ 542]

AUGUST 2011

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Revised (Non-Semester) Regulations****Paper III – GENERAL PATHOLOGY AND HAEMATOLOGY****Q. P. Code : 524063****Time : Three hours****Maximum: 100 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

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

1. Define inflammation.
Write in detail about the vascular and cellular changes in inflammation.
2. 40 yrs female c/o loss of weight, huge splenomegaly with peripheral blood white blood cell count of more than 1 lakh cells/cc
 - a. What is the probable diagnosis?
 - b. What are the characteristic peripheral smear findings?
 - c. What is the course of the disease?
 - d. What is the chromosomal abnormality involved?

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

1. Classify pigments and write about Lipofuscin.
2. Write about outcomes of acute inflammation.
3. Growth factors.
4. Hybridisation techniques to detect genomic alterations.
5. Antibody mediated hypersensitivity.
6. Molecular basis of cancer.
7. Immunology of Leprosy.
8. Primary myelofibrosis.
9. Hemophilia A.
10. Peripheral smear and Bone marrow findings in Multiple Myeloma.

III. Short Answer questions :**(10 x 2 = 20)**

1. Define metaplasia and give two examples.
2. Antiphospholipid antibody syndrome.
3. Mention four X linked recessive disorders.
4. Mention four special stains for Amyloid.
5. Lead and blood and marrow changes.
6. Four infections associated with AIDS.
7. Hamartoma.
8. Prions.
9. Four Systemic effects of inflammation.
10. Hyper IGM syndrome.

[LA 542]

FEBRUARY 2012

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Revised (Non-Semester) Regulations****Paper I – GENERAL PATHOLOGY AND HAEMATOLOGY****Q. P. Code : 524063****Time: Three Hours****Maximum: 40 Marks**

Answer **ALL** questions in the same order.
Draw Suitable diagrams wherever necessary

I. Elaborate on :

1. Define shock. Discuss in detail the pathogenesis of septic shock.
Describe the morphology of kidneys and lungs affected by shock. **(10 x 1 = 10)**
2. 60 yrs male presented with normocytic normochromic anaemia, pathological fracture femur and proteinuria. X ray skull revealed punched out lesions in the calvarium and peripheral smear studied show rouleaux formation.
 - a) What is your probable diagnosis.
 - b) Discuss in detail the molecular pathogenesis, morphology and clinical features of above said disorder. **(5 x 1 = 5)**

II. Write notes on :**(10 x 1.5 = 15)**

1. Turner syndrome.
2. Immune complex mediated hypersensitivity.
3. Differentiation and anaplasia.
4. Viral haemorrhagic fevers.
5. Morphology of leprosy.
6. Morphology of primary myelo fibrosis.
7. Pathogenesis of sickle cell disease.
8. Chronic immune thrombocytopaenic purpura.
9. Free radicals
10. Defects in leucocyte function.

III. Short Answers on :**(10 x 1 = 10)**

1. Fat necrosis.
2. Heart failure cells.
3. Lines of Zahn.
4. Warburg effect.
5. Mott cells.
6. 4 tumors associated with AIDS.
7. Cross matching.
8. Anticoagulants.
9. PSEUDO PELGER HUET ANOMALY.
10. Black water fever.

[LB 542]

AUGUST 2012

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Paper I – GENERAL PATHOLOGY AND HAEMATOLOGY****Q. P. Code : 524063****Time : 180 Minutes****Maximum: 40 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:

Pages (Max.)	Time (Max.)	Marks (Max.)
-----------------	----------------	-----------------

- | | | | |
|---|----|----|----|
| 1. Write in detail about carcinogenesis physical, chemical and biological and also molecular basis of Carcinogenesis. | 16 | 30 | 10 |
| 2. Chronic myeloid leukemia – clinical features peripheral smear and bone marrow findings and clinical outcome. | 8 | 20 | 5 |

II. Write notes on:

- | | | | |
|--|---|---|-----|
| 1. Air embolism. | 3 | 8 | 1.5 |
| 2. Kline felters syndrome. | 3 | 8 | 1.5 |
| 3. Arthus reaction. | 3 | 8 | 1.5 |
| 4. Morphology of Primary Tuberculosis. | 3 | 8 | 1.5 |
| 5. Fracture healing. | 3 | 8 | 1.5 |
| 6. Sickle cell disease. | 3 | 8 | 1.5 |
| 7. Poycythemia vera. | 3 | 8 | 1.5 |
| 8. Leukemoid reaction. | 3 | 8 | 1.5 |
| 9. Christmas disease. | 3 | 8 | 1.5 |
| 10. Fanconi's Anemia. | 3 | 8 | 1.5 |

III. Short answers on:

- | | | | |
|--------------------------------------|---|---|---|
| 1. Warthin finkeldey giant cells. | 2 | 5 | 1 |
| 2. Factors downregulation apoptosis. | 2 | 5 | 1 |
| 3. Gamma – Gandy bodies. | 2 | 5 | 1 |
| 4. Virchow's traid. | 2 | 5 | 1 |
| 5. Bernard – soulier syndrome. | 2 | 5 | 1 |
| 6. Sago spleen. | 2 | 5 | 1 |
| 7. Two special stain for Amyloid. | 2 | 5 | 1 |
| 8. Howell – Jolly bodies. | 2 | 5 | 1 |
| 9. Tear drop cell. | 2 | 5 | 1 |
| 10. MCV. | 2 | 5 | 1 |

[LC 542]

FEBRUARY 2013

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Paper I – GENERAL PATHOLOGY AND HAEMATOLOGY****Q. P. Code : 524063****Time: Three Hours****Maximum: 100 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:**(2 x 15 = 30)**

1. Define edema.
Discuss the etiopathogenesis of various types of edema with examples.
2. Define and classify anaemia.
Discuss etiopathogenesis, peripheral smear and bone marrow picture in iron deficiency anaemia.

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

1. Oncogenic viruses.
2. Anaphylactic reaction
3. Bence Jones proteins.
4. Pathologic Calcification
5. Vitamin A Deficiency.
6. Neonatal respiratory distress syndrome.
7. Von Willebrand's Disease.
8. Granulomatous inflammation
9. Familial hypercholesterolemia.
10. Embolism.

III. Short Answers on:**(10 x 2 = 20)**

1. Types of necrosis.
2. Factors influencing wound healing.
3. Fate of thrombus.
4. Clinical features of Trisomy 21.
5. Oncofetal antigens.
6. Reticulocyte.
7. Philadelphia chromosome.
8. Reed-Sternberg cell.
9. Tertiary Syphilis.
10. Agranulocytosis.

[LD 542]

AUGUST 2013

Sub. Code : 4063

SECOND M.B.B.S. DEGREE EXAMINATION**Paper I – GENERAL PATHOLOGY AND HAEMATOLOGY***Q. P. Code : 524063***Time: Three Hours****Maximum: 40 Marks****Answer ALL questions.****Draw Suitable diagrams wherever necessary****I. Elaborate on:****(2 x 7.5 = 15)**

1. a) 23 yrs female presented with oral ulcers, malar rash photosensitivity and non erosive arthritis involving both knees. Laboratory investigations show persistent proteinuria and leucopenia. What is your probable diagnosis.
- b) Discuss in detail the pathogenesis and morphology of kidney affected by the above disorder.
2. Discuss in detail the molecular pathogenesis and morphology of Hodgkin lymphoma.

II. Write notes on:**(10 x 1.5 = 15)**

1. Caseous necrosis.
2. Pathology of Fracture healing.
3. Morphology of Thrombi.
4. Familial hypercholesterolemia.
5. Oncogenic Epstein – Barr virus.
6. Pathogenesis of Amyloidosis.
7. Aetiology and morphology of bone marrow in Aplastic anaemia.
8. Morphology of multiple myeloma.
9. Molecular pathogenesis of Acute myeloid leukaemia.
10. Pathogenesis of disseminated intra vascular coagulation.

III. Short Answers on:**(10 x 1 = 10)**

1. Define metaplasia & give 2 examples.
2. Tigered effect.
3. Define Granuloma.
4. Systemic factors that influence wound healing.
5. Warburg effect.
6. Role of Vitamin C in wound healing.
7. Prothrombin time.
8. Megaloblast.
9. Rh factor.
10. Auer rods.

[LE 542]

FEBRUARY 2014

Sub. Code: 4063

SECOND YEAR MBBS DEGREE EXAMINATION
Paper V – GENERAL PATHOLOGY AND HAEMATOLOGY
Q. P. Code: 524063

Time: Three Hours**Maximum: 40 Marks**

Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:**(2 x 7.5 = 15)**

1. Define thrombosis, write in detail about pathogenesis, causes, morphology and fate of thrombus.
2. 40 yr old male presented with h/o fever, vomiting and diarrhoea. Patient had temperature of 103 degrees F. Weak rapid pulse, hypotension, tachypnoea, cold, clammy, cyanotic skin. Blood culture gram negative bacterial infection positive.
 - (a) What is your diagnosis?
 - (b) Explain the pathogenesis and morphology.

II. Write Notes on:**(10 x 1.5 = 15)**

1. Definition and characteristics of types of necrosis.
2. Phagocytosis.
3. Paraneoplastic syndromes.
4. Gaucher's disease.
5. Hypersensitivity reaction II
6. Morphological changes in apoptosis.
7. Vascular events in acute inflammation.
8. Chemokines.
9. Morphology of infarct.
10. Opportunistic infections in AIDS.

III. Short Answers on:**(10 x 1 = 10)**

1. Write any two stem cell niches.
2. Heinz bodies.
3. Types of leprosy.
4. Mention the cause of thrombocytopenia.
5. Bart haemoglobin.
6. Types of wound healing.
7. Two inherited disorders of platelets.
8. Two oncogenic DNA virus.
9. Two tumor suppressor genes.
10. Two examples of acute phase proteins.

[LF 542]

AUGUST 2014

Sub. Code: 4063

SECOND YEAR M.B.B.S DEGREE EXAMINATION**Paper V – GENERAL PATHOLOGY AND HAEMATOLOGY*****Q. P. Code: 524063*****Time: Three Hours****Maximum: 40 Marks**Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:**(2 x 7.5 = 15)**

1. a) A 12 year boy weighing 70 kgs, doesn't play any outdoor games and is always in front of his play station with lot of snacks besides him.
What is he having? What are the methods to assess it?
- b) What is the etiopathogenesis? Enumerate the complications?
2. Define Thrombocytopenia? Classify causes of Thrombocytopenia?
Discuss various tests in evaluating bleeding disorders?

II. Write Notes on:**(10 x 1.5 = 15)**

1. Define Virchow's triad?
2. Outcomes of acute inflammation?
3. Caissons disease
4. Morphology of renal changes in SLE
5. P 53
6. Epstein barr virus
7. Leucocyte alkaline phosphatase
8. Hemophilia A
9. Wilms Tumor
10. Amniotic fluid embolism.

III. Short Answers on:**(10 x 1 = 10)**

1. Russell bodies
2. Mention two sites of biopsy for amyloidosis?
3. Autosomal recessive hematopoietic disorder
4. Special stain to diagnose Gaucher's disease
5. Fluorescent in situ hybridization
6. Name two trisomy syndromes
7. Neurofibromatosis gene
8. Name two familial cancers?
9. Stages of shock
10. Mention two sites of oncocyotomas.

[LG 542]

FEBRUARY 2015

Sub.Code :4063

**M.B.B.S. DEGREE EXAMINATION
SECOND YEAR
PAPER V – GENERAL PATHOLOGY & HAEMATOLOGY**

*Q.P. Code: 524063***Time: Three hours****Maximum : 40 Marks****Answer All Questions****I. Elaborate on:****(1 x 10 = 10)**

1. Classify Hemolytic Anemias. Write in detail about the pathogenesis, blood picture and clinical features of beta Thalassemia major.

II. Write notes on:**(4 x 5 = 20)**

1. Growth factors
2. Transplant rejection
3. Cystic fibrosis.
4. Hodgkin Lymphoma

III. Short answers on:**(5 x 2 = 10)**

1. Dystrophic calcification
2. Gaucher's cell
3. Arthus reaction
4. Chloroma
5. Vitamin C deficiency

[LH 542]

AUGUST 2015

Sub. Code: 4063

SECOND M.B.B.S. DEGREE EXAMINATION
PAPER V – GENERAL PATHOLOGY & HAEMATOLOGY

Q.P. Code: 524063

Time : Three Hours**Maximum : 40 marks****Answer ALL questions****I. Elaborate:****(1 x 10 = 10)**

1. Define Neoplasia. Write in detail about the molecular basis of cancers.
Add a note on Oncogenes and their mode of activation.

II. Write notes on :**(4 x 5 = 20)**

1. Pathogenesis of shock.
2. Amyloidosis.
3. Megaloblastic Anemia.
4. Myelofibrosis.

III. Short answers on :**(5 x 2 = 10)**

1. Acute phase reactants.
2. Le cell.
3. Chronic granulomatous disease.
4. Langerhans cell histiocytosis.
5. Name four Monoclonal Gammopathies.

[LI 542]

FEBRUARY 2016

Sub. Code: 4063

SECOND YEAR M.B.B.S. DEGREE EXAMINATION
PAPER V – GENERAL PATHOLOGY & HAEMATOLOGY

Q.P. Code : 524063

Time : Three Hours**Maximum : 40 Marks****Answer ALL questions****I. Elaborate on:****(1 x 10 = 10)**

1. Define apoptosis. What are the causes of apoptosis?

Write about the biochemical features and mechanisms of apoptosis.

Add a note on dysregulated apoptosis.

II. Write notes on:**(4 x 5 = 20)**

1. Embolism.
2. Stem cells in tissue homeostasis.
3. Myelodysplastic syndrome.
4. Von willebrand disease.

III. Short answers on:**(5 x 2 = 10)**

1. Role of sirutins in cellular aging.
2. Wilson's disease.
3. Sea blue histiocytosis.
4. Agranulocytosis.
5. Lead poisoning.

[LJ 542]

AUGUST 2016

Sub. Code : 4063

SECOND YEAR M.B.B.S. DEGREE EXAMINATION
PAPER V – GENERAL PATHOLOGY & HAEMATOLOGY

Q. P. Code : 524063

Time : Three hours**Maximum: 40 Marks**

Answer **ALL** questions.

I. Elaborate on :**(1 x 10 = 10)**

1. Describe the pathogenesis, morphology and clinical features of tuberculosis.

II. Write notes on:**(4 x 5 = 20)**

1. Gangrene.
2. Blood picture of chronic myeloid leukemia.
3. Disseminated intravascular coagulation.
4. Down syndrome.

III. Short answers on:**(5 x 2 = 10)**

1. Name four cell derived mediators of inflammation.
2. Differences between benign and malignant tumor.
3. Reed Sternberg cell and its variants.
4. Define hyperemia and congestion.
5. Four opportunistic infections in HIV.
