

SAPTHAGIRI NPS UNIVERSITY

MBBS PHASE II University Examinations August / September– 2025

SUBJECT: PATHOLOGY PAPER 1 (QP CODE: 1007)

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

Maximum Marks: 100

Date: 18/08/2025

Time: 3 hrs

I. Long Essay

2 X 10 = 20 Marks

1. A 58-year-old male presents to the emergency department with a 2-day history of high-grade fever, chills, and altered sensorium. On examination, he is hypotensive (BP: 80/50 mmHg), tachycardic (HR: 112 bpm), and febrile (Temperature: 39.5°C). His skin appears cold and clammy, and there are petechial haemorrhages on both lower limbs. Laboratory investigations reveal:
 - WBC count: 24,000/mm³ (Neutrophil predominant)
 - Platelet count: 55,000/mm³
 - Serum lactate: 4.5 mmol/L
 - Procalcitonin: Elevated

(2+4+2+2=10 marks)

 - A. What is the most likely diagnosis.
 - B. Describe the pathogenesis of this condition.
 - C. Enumerate at least two histopathological features seen in organs affected by this condition.
 - D. List any two complications that can arise if this condition is not managed promptly.
2. A 30-year-old woman presents with fatigue, shortness of breath on exertion, and persistent glossitis for the past 2 months. She also reports numbness and tingling in her hands and feet. She follows a strict vegetarian diet. Lab investigations reveal: haemoglobin-8.8g/dl, MCV - 110 fl.

(2+6+2=10 marks)

 - A. What is the most likely diagnosis?
 - B. Describe the characteristic peripheral blood and bone marrow findings in this condition.
 - C. What neurological manifestations are commonly associated with this condition and why?

II. Short Essay

8x5 = 40 Marks

3. Blood transfusion reactions
4. Describe the routes of metastasis with examples
5. Pap smear
6. Opportunistic infections in AIDS
7. Pathogenesis and morphology of Granulomatous inflammation
8. Define Gangrene, mention the types of gangrene, enumerate the differences between the types of gangrene
9. Discuss the pathogenesis and peripheral smear picture in Hereditary spherocytosis
10. Semen analysis

P.T.O

III. Short Answers

10x 3 = 30 Marks

11. Mention THREE special stains to detect amyloid protein
12. List THREE causes of thrombocytopenia
13. Define hyperplasia. Give TWO examples
14. Give TWO indications and ONE contraindication for bone marrow aspiration
15. Mention THREE factors affecting wound healing and THREE complications in wound healing
16. Mention THREE causes of neutrophilia
17. Enumerate THREE features of Down's syndrome
18. Give THREE differential diagnosis for microcytic hypochromic blood picture
19. Mention THREE causes of Hematuria
20. Mention THREE differences between benign and malignant tumors

IV. MCQ's

1 X 10 = 10 Marks

- 21 i) "Gamna Gandy bodies " are seen in
- a. CVC liver
 - b. CVC lung
 - c. CVC spleen
 - d. CVC kidney
- 21 ii) A 55-year-old male with a history of uncontrolled hypertension presents with sudden onset of severe chest pain radiating to the left arm and jaw. ECG shows ST-segment elevation. Despite initial management, he dies 3 days later in the hospital. Autopsy was performed. What type of necrosis is seen in the heart in this condition?
- a. Coagulative necrosis
 - b. Liquifactive necrosis
 - c. Caseous necrosis
 - d. Fat necrosis
- 21iii) Which cell is predominantly involved in chronic inflammation?
- a. Neutrophil
 - b. Mast cell
 - c. Basophil
 - d. Lymphocyte
- 21 iv) Multiple myeloma is a malignancy of which cell type?
- a. T lymphocytes
 - b. Lymphocytes
 - c. Plasma cells
 - d. Natural killer cells
- 21 v) Which of the following is the most common leukemia in children?
- a. Chronic lymphocytic leukemia (CLL)
 - b. Acute myeloid leukemia (AML)
 - c. Acute lymphoblastic leukemia (ALL)
 - d. Chronic myeloid leukemia (CML)

P.T.O

22 i) A 28-year-old woman is admitted to the emergency department in the third trimester of pregnancy due to placental abruption. She presents with profuse vaginal bleeding, hypotension, and tachycardia. On examination, she has petechiae, ecchymoses, and oozing from IV sites. Lab investigations reveal: decreased Platelet count; prolonged Prothrombin time and Activated partial thromboplastin time; low Fibrinogen level ; elevated D-dimer.

Which of the following is the most likely diagnosis

- a. Immune thrombocytopenic purpura
- b. Disseminated intravascular coagulation
- c. Haemophilia
- d. Von Willebrand disease

22 ii) AL amyloidosis is derived from:

- a. Serum amyloid A protein
- b. Light chain of immunoglobulins
- c. Transthyretin protein
- d. Prealbumin

22 iii) Which of the following is a common complication of leprosy?

- a. Peripheral neuropathy and deformities
- b. Pulmonary fibrosis
- c. Kidney failure
- d. Hepatic cirrhosis

22 iv) Which of the following is a characteristic feature of kwashiorkor?

- a. Wasting of muscles without edema
- b. Fatty liver and edema
- c. Increased height for age
- d. Hyperpigmented skin

22 v) In which condition is the spleen typically atrophic or absent?

- a. Infectious mononucleosis
- b. Hereditary spherocytosis
- c. Advanced Sickle cell anemia
- d. Severe portal hypertension

SAPTHAGIRI NPS UNIVERSITY

MBBS PHASE II University RESIT Examinations October / November– 2025

SUBJECT: PATHOLOGY PAPER 1 (QP CODE: 1007)

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

Maximum Marks: 100

Date: 15/10/2025

Time: 3 hrs.

I. Long Essay

2 X 10 = 20 Marks

1. A 50-year-old lady notices a lump in the left breast while taking shower. On physical examination, there was a 3cm firm to hard, non-mobile mass in the upper outer quadrant of left breast. Cytology and histopathology findings were consistent with Ductal carcinoma. (1+5+4)
 - a) Define the above condition.
 - b) Discuss the mechanisms of metastasis.
 - c) Enumerate the laboratory investigations for the above condition.
2. A 25-year-old woman presents with menorrhagia, irritability and dyspnoea. She has angular cheilitis, koilonychia and had history of pica during pregnancy. (1+4+3+2)
 - a) What is the probable diagnosis?
 - b) Discuss the pathogenesis of the above condition.
 - c) Enumerate the laboratory investigations for the above condition.
 - d) Draw a neat labelled diagram of peripheral smear of the above condition.

II. Short Essay

8 X 5 = 40 Marks

3. Describe the chemical mediators of acute inflammation.
4. What is a healthcare team? What are the stages of team building? (2+3)
5. A 30yr old man came for blood donation into a blood bank. How will you choose suitability of this donor by selecting tests to rule out transfusion transmitted diseases?
6. Pathogenesis and laboratory investigations of Sickle cell anemia.
7. Pathogenesis of Type IV hypersensitivity reaction with examples.
8. Define oedema. Describe the pathogenesis and pathology of pulmonary oedema.
9. Discuss the etiopathogenesis of fatty liver. What are the biochemical changes associated with reversible cell injury? (3+2)
10. Pathogenesis and investigations for Immune Thrombocytopenic Purpura.

III. Short Answers

10 X 3 = 30 Marks

11. Morphology of Nutmeg liver
12. Fate of thrombus
13. Enumerate SIX causes of hematuria
14. List the SIX lesions seen in Syphilis.
15. Mention three differences between red infarct and pale infarct.
16. Enumerate SIX indications for FNAC.
17. Mention SIX features of Vitamin A deficiency.
18. Write three red cell indices and its normal values.
19. Enumerate SIX types of Urine crystals.
20. List SIX features of Klinefelter's syndrome.

P.T.O

A. F. L. P.
15/10/25

IV. MCQ's

1 X 10 = 10 Marks

21.

- i. An 84-year-old man dies from complications of Alzheimer disease. At autopsy, his heart is small (250 gm) and dark brown on sectioning. Microscopically, there is light brown perinuclear pigment with H&E staining of the cardiac muscle fibres. Which of the following substances is most likely increased in the myocardial fibres to produce this appearance of his heart?
 - a. Hemosiderin.
 - b. Lipochrome.
 - c. Glycogen.
 - d. Cholesterol.

- ii. Classical markers for Hodgkin's disease are:
 - a. CD 15 and CD 30
 - b. CD 15 and CD 22
 - c. CD 15 and CD 20
 - d. CD 20 and CD 30

- iii. Which of the following blood components has the shortest shelf life:
 - a. Red blood cells
 - b. Platelets
 - c. Fresh frozen plasma
 - d. cryoprecipitate

- iv. Proteinuria in excess of 3gm/day is a typical feature of:
 - a. Cardiac failure
 - b. Nephrotic syndrome
 - c. Acute renal failure
 - d. Polycystic renal disease

- v. Disseminated Intravascular Coagulation is seen in:
 - a. Acute promyelocytic leukemia
 - b. Acute myelomonocytic leukemia
 - c. Chronic myeloid leukemia
 - d. Autoimmune hemolytic anemia

22.

- i. Which of the following causes vasoconstriction & platelet aggregation?
 - a. Prostaglandin I₂
 - b. Thromboxane A₂
 - c. Prostaglandin E₂
 - d. Prostacyclin.

A. A. C. P.
15/10/20

P.T.O

- ii. Virchow's triad includes all the following **EXCEPT**:
- a. Hypercoaguability
 - b. Endothelial proliferation
 - c. Stasis
 - d. Endothelial injury
- iii. All the following are irreversible injury **EXCEPT**:
- a. Necrosis
 - b. Apoptosis
 - c. Gangrene
 - d. Hyperplasia
- iv. Hypercalcaemia as a paraneoplastic syndrome is observed in the following tumours **EXCEPT**:
- a. Squamous cell carcinoma lung
 - b. Small cell carcinoma lung
 - c. Renal cell carcinoma
 - d. Breast cancer.
- v. Which gene is called Molecular policeman?
- a. RB gene
 - b. p53 gene
 - c. RAS gene
 - d. BRAF gene

A. p53
12/23/25