

**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)**

B.Sc. Nursing (Fourth Semester) Regular/Supplementary Examinations,
August - 2026

**PHAR (I & II) 205 & PATH(II) 210 - Pharmacology & Pathology (I
& II) and Gentic**



Time: 3 hrs

Maximum: 75 Marks

The figures in the right hand margin indicate marks.

Section - A : <PHARMACOLOGY-II> (38 Marks)

PART – A: (Multiple Choice Questions)

(7 x 1 = 7 Marks)

Q. 1 Answer ALL questions

- Which of the following is the primary mechanism of action of benzodiazepines?
 - Inhibition of GABA transaminase
 - Allosteric enhancement of GABA-A receptor chloride channel opening
 - Direct agonism of GABA-B receptors
 - Blockade of NMDA glutamate receptors
- Digoxin toxicity can be significantly worsened by which concurrent electrolyte abnormality?
 - Hyperkalemia
 - Hypernatremia
 - Hypornatremia
 - Hypocalcemia
- Which anti-emetic drug acts primarily by blocking central 5-HT₃ receptors in the chemoreceptor trigger zone and is highly effective for chemotherapy-induced nausea?
 - Metoclopramide
 - Ondansetron
 - Promethazine
 - Prochlorperazine
- The therapeutic index is a measure of a drug's:
 - Potency
 - Efficacy
 - Safety
 - Bioavailability
- Which oral anti-diabetic drug belongs to the biguanide class and does not typically cause hypoglycemia when used as monotherapy?
 - Glimepiride
 - Metformin
 - Pioglitazone
 - Repaglinide
- Which glucocorticoid property accounts for its primary clinical use in managing severe inflammation and autoimmune flare-ups?
 - Stimulation of insulin secretion
 - Inhibition of phospholipase A₂ via lipocortin induction
 - Promotion of peripheral glucose uptake
 - Increase in systemic blood pressure via mineralocorticoid receptor binding
- Which of these is classified as a Short-Acting Beta-2 Agonist (SABA)?
 - Salmeterol
 - Formoterol
 - Albuterol
 - Indacaterol

PART – B: (Very Short Answer Questions)

(3 x 2 = 6 Marks)

Q.2. Answer ANY THREE questions

- Define urinary antiseptics. Mention any two drugs used as urinary antiseptics
- Name any two drugs used for de-addiction
- Why is Clavulanic Acid added to Amoxicillin?
- What is the mechanism of action of Statins?

PART – C: (Short Answer Questions)

(3 x 5 = 15 Marks)

Q.3. Answer ANY THREE questions

- Discuss the role of adrenaline, hydrocortisone, dexamethasone, and chlorpheniramine in CPR and emergency management.
- Classify Oral Hypoglycemic Agents with examples.
- Classify Cephalosporins by generations and give an example for each.
- Proton pump inhibitors.

PART – D: (Long Answer Questions)

(10 x 1 = 10 Marks)

Answer ALL questions

Marks

- Define and Classify NSAID. 2
- Explain their mechanism of action, dosage, therapeutic uses, contraindications, adverse effects of indomethacin. 8

(OR)

- Define antiemetics 2
- Explain mechanism and action, dosage, indication, contraindications, and adverse effects of loperamide. 8

Section - B : PATHOLOGY-ii (25 Marks)

PART – A: (Multiple Choice Questions)

(4 x 1 = 4 Marks)

Q. 5 Answer ALL questions

- a. A detached intravascular mass carried by blood is called:
(i) Thrombus (ii) Aneurysm
(iii) Infarct (iv) Embolus
- b. Which is a common feature of malignancy?
(i) No cellular atypia (ii) Encapsulation always
(iii) Invasion and metastasis (iv) Slow growth always
- c. A complete blood count commonly includes
(i) Hb and WBC count (ii) Serum bilirubin only
(iii) Blood urea only (iv) Liver enzymes only
- d. The universal donor for packed RBC transfusion is generally:
(i) AB positive (ii) O negative
(iii) A positive (iv) B negative

PART – F: (Very Short Answer Questions)

(3 x 2 = 6 Marks)

Q.6. Answer ANY THREE questions

- a. What is atrophy? Mention two causes.
- b. Define embolism and infarction.
- c. Define hemostasis. Mention its major components.
- d. Define necrosis and mention any two types.

PART – G: (Short Answer Questions)

(3 x 5 = 15 Marks)

Q.7. Answer ANY THREE question.

- a. Write the Patho-physiology of type-4 hypersensitive reaction.
- b. Discuss thrombosis and patho-physiology
- c. Describe the process of bone fracture healing.
- d. Describe the etiology, patho-physiology of COPD.

Section - C : GENETICS (12 Marks)

PART – H: (Multiple Choice Questions)

(3 x 1 = 3 Marks)

Q. 8 Answer ALL questions

- a. A genetic disorder caused by a mutation in mitochondrial DNA is generally inherited through:
(i) Mother (ii) Both equally
(iii) Y chromosome (iv) Father
- b. G6PD deficiency can predispose RBCs to:
(i) Oxidative hemolysis (ii) Polycythemia only
(iii) Iron overload only (iv) Excess platelet formation
- c. An X-linked recessive disorder is more commonly expressed in:
(ii) Females (iii) Males
(v) Both equally in all cases (vi) Newborns only

PART – I: (Very Short Answer Questions)

(2 x 2 = 4 Marks)

Q.9. Answer ANY TWO questions

- a. What is phenylketonuria?
- b. Write some maternal factors play crucial role in fetal development?
- c. Mention two genetic causes of male infertility.

PART – J: (Short Answer Questions)

(1 x 5 = 5 Marks)

Q.10. Answer ANY ONE question.

- a. Explain consanguinity and its relationship with autosomal recessive disorders
- b. Explain mutation, its major types and causes

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