



All India Institute of Medical Sciences, Kalyani  
B.Sc. (Hons) Nursing Second Year Examination, August 2024

Time: 3 Hrs.

PATHOLOGY & GENETICS

Marks: 75

**INSTRUCTIONS:**

- Answer Pathology & Genetics Section in separate answer booklets.
- Draw diagram wherever necessary

**PATHOLOGY (45 MARKS)**

**SECTION-A**

Answer any ONE of the following:

[1×10=10]

1. What is inflammation? Describe the vascular changes in acute inflammation. What are the differences between wound healing by Primary intention and Secondary intention? (2+4+4)
2. Define Neoplasm. What are the different types of Neoplasm? Give examples of each. What are the methods of laboratory diagnosis of Neoplasm? (2+3+3+2)

**SECTION-B**

Write short notes on any FIVE:

[5×5=25]

3. Pulmonary Tuberculosis
  4. Rheumatic heart disease
  5. von Willebrand Disease
  6. Peptic ulcer
  7. Cirrhosis of Liver
  8. Acute pyelonephritis.
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**GENETICS (30 MARKS)**

**SECTION-A**

Answer any ONE of the following:

[1×7=7]

1. How can maternal factors influence the development of the fetus? Give two examples of maternal nutritional deficiencies leading to defect/disease in the newborn. (5+2)

**OR**

2. What is Turner Syndrome? What are the clinical features of Turner Syndrome? What is the gender of a child with Turner syndrome? How can the diagnosis of Turner syndrome be confirmed antenatally and postnatally? (1+2+1+3)

**SECTION-B**

Write short notes on any **THREE**:

[3×5=15]

3. Amniocentesis
  4. Eugenics
  5. Meiosis
  6. Familial cancers
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## B.Sc. (Hons) Nursing Second Year Examination, August 2024

Enrollment No. \_\_\_\_\_

Invigilator sign: \_\_\_\_\_

### SECTION C (GENETICS)

#### INSTRUCTIONS:

- Section C (Pathology & Genetics) should be answered in first 20 minutes of the Exam duration and handed over to the invigilators.
- Put one Tick (✓) mark to only one answer that you consider correct for each question.
- Mark your Tick (✓) in pen.

#### Multiple Choice Questions (MCQs):

[8×1=8]

1. What is the risk of a 40-year-old pregnant lady giving birth to a child with Down syndrome?
  - a. 1 in 10;
  - b. 1 in 20;
  - c. 1 in 30;
  - d. 1 in 40;
2. Which of the following would be the chromosomal complement of an individual with Klinefelter Syndrome?
  - a. 45, XO;
  - b. 46, XX;
  - c. 47, XXY;
  - d. 47, XXX
3. When was the Human Genome Project completed?
  - a. 2001;
  - b. 2002;
  - c. 2003;
  - d. 2004;
4. Blood group alleles are inherited as which trait?
  - a. Co-Dominant;
  - b. Dominant;
  - c. Recessive;
  - d. X linked
5. Which of the following is **not** a step of genetic counselling?
  - a. Building rapport;
  - b. Collecting information;
  - c. Providing information;
  - d. Providing therapy
6. Which of the following disorders leads to iron overload:
  - a. Wilson disease;
  - b. Hemophilia;
  - c. Huntington disease;
  - d. Hemochromatosis
7. Duchenne Muscular Dystrophy is caused by a defect in which of the following genes?
  - a. BRCA1;
  - b. BRCA2;
  - c. DMD;
  - d. RB1
8. Which of the following diseases can be diagnosed by Newborn Screening?
  - a. Huntington's disease;
  - b. Phenylketonuria;
  - c. Klinefelter Syndrome;
  - d. Breast cancer



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### SECTION C (PATHOLOGY)

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- Section C (Pathology & Genetics) should be answered in first 20 minutes of the Exam duration and handed over to the invigilators.
- Put one Tick (✓) mark to only one answer that you consider correct for each question.
- Mark your Tick (✓) in pen.

Please write the single most appropriate answer.

[5×1=5]

1. The usual range of specific gravity of urine is \_\_\_\_\_ (1.0 to 1.1 / 1.01 to 1.03 / 1.03 to 1.05)
2. PAP smear is used for which cancer screening \_\_\_\_\_ (Ovary / Uterus / Cervix / Fallopian tube)
3. The average diameter of RBC is \_\_\_\_\_ (5µm / 7µm / 9µm / 11µm)
4. Tests done for CSF examination are all except \_\_\_\_\_ (Protein / Ketone / Sugar / Chloride)
5. The triple test is done for screening of \_\_\_\_\_ cancer. (Breast / Gastric / Prostrate / Pancreas)

#### Multiple Choice Questions (MCQs):

[5×1=5]

6. Which of the following is the surest sign of malignancy?
  - a. Mitosis
  - b. Polychromasia
  - c. Nuclear pleomorphism
  - d. Metastasis
7. The most common type of emphysema clinically is:
  - a. Panacinar
  - b. Centriacinar
  - c. Paraseptal
  - d. Segmental
8. Which of the following is false regarding the Virchow triad in thrombosis?
  - a. Endothelial injury
  - b. Hypercoagulability
  - c. Abnormal blood flow
  - d. Endothelial integrity is the most critical factor in this triad
9. Serum cardiac marker that persists for 10-14 days after acute MI is:
  - a. Myoglobin
  - b. Troponin I
  - c. Troponin T
  - d. CK-MB
10. The anticoagulant of choice for performing coagulation studies is:
  - a. EDTA
  - b. Heparin
  - c. Trisodium citrate
  - d. Double oxalate