



All India Institute of Medical Sciences, Kalyani

B.Sc. (Hons) Nursing Second Year Supplementary Examination, April 2024

Time: 3 Hrs.

**PATHOLOGY & GENETICS**

Marks: 75

**INSTRUCTIONS:**

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

**GENETICS (30 MARKS)**

**SECTION-A**

Answer any **ONE** of the following:

[1×7=7]

1. What is Genetic Counseling? What are the different steps to be followed for Genetic Counseling?  
(2+5)

**OR**

2. What is Down Syndrome? What are the clinical features of Down Syndrome? What is/are the maternal risk factor for Down syndrome in the child? How can the diagnosis of Down syndrome be confirmed antenatally and postnatally?  
(1+2+1+3)

**SECTION-B**

Write short notes on any **THREE**:

[3×5=15]

3. Chorionic Villus Sampling
  4. Huntington Disease
  5. Gene therapy
  6. Inborn Errors of Metabolism
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**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. Define neoplasia. What are the differences between carcinoma and sarcoma? Write a brief note on tumor markers. (2+3+5)
- OR**
2. Define inflammation. Describe the cellular events of acute inflammation. Enumerate the differences between healing by primary and secondary intention. (2+5+3)

**SECTION-B**

Write short notes on any **FIVE**:

[5×5=25]

3. Difference between necrosis and apoptosis.
  4. Rheumatic heart disease.
  5. Indications of bone marrow examination
  6. Causes of microcytic, hypochromic anemia
  7. Etiopathogenesis and screening methods of Carcinoma Cervix
  8. Cirrhosis of liver
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## B.Sc. (Hons) Nursing Second Year Supplementary Examination, April 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. Which of the following is a reductional cell division?
  - a. Meiosis 1
  - b. Meiosis 2
  - c. Meiosis 3
  - d. Meiosis 4
2. Which of the following would be the chromosomal complement of an individual with Turner Syndrome?
  - a. 45, XO
  - b. 46, XX
  - c. 47, XXY
  - d. 47, XXX
3. What would be the degree of consanguinity in marriages between first cousins?
  - a. 1<sup>st</sup>
  - b. 2<sup>nd</sup>
  - c. 3<sup>rd</sup>
  - d. 4<sup>th</sup>
4. Maternal deficiency of which of the following Vitamin can lead to Neural Tube Defect in the fetus?
  - a. Thiamine
  - b. Riboflavin
  - c. Folic acid
  - d. Pyridoxine
5. Which of the following disease can lead to spontaneous abortion in the fetus?
  - a. Chromosomal disorders
  - b. Huntington's disease
  - c. Phenylketonuria
  - d. G6PD deficiency
6. Which of the following genetic testing method is utilized in suspected Monogenic disorders:
  - a. Karyotyping
  - b. FISH
  - c. Chromosomal Microarray
  - d. Whole Exome Sequencing
7. Which of the following gene is known as the guardian of the genome?
  - a. BRCA1
  - b. BRCA2
  - c. TP53
  - d. RB1
8. Which of the following disease can be diagnosed by Newborn Screening?
  - a. Huntington's disease
  - b. Phenylketonuria
  - c. Klinefelter Syndrome
  - d. Breast cancer Interphase