

2026

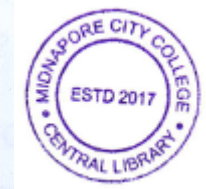
6th Semester Examination (CCFUP : NEP)

BMLT

Paper : MDSE 2-T

(Single Core Major Elective-2)

[Oncopathology and Cellular and
System Pathology]



Full Marks : 60

Time : Three Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

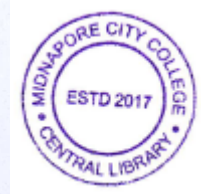
Group - A

Answer any *ten* questions : $2 \times 10 = 20$

1. Define the terms *Anaplasia* and *Metaplasia*.
2. Define the "Two-Hit Hypothesis" proposed by Knudson for tumor suppressor genes.
3. What is apoptosis? State its significance in preventing cancer progression.
4. Name the pathways of dissemination of cancer.
5. Name two oncogenic viruses and specify the malignancies they cause.

P.T.O.

6. What is Immunohistochemistry (IHC)? Name one common enzyme or dye label used in this technique.
7. What is DAB staining?
8. Differentiate between liquefactive necrosis and coagulative necrosis.
9. Mention two differences between benign and malignant tumours.
10. What is atypia in cytology?
11. What is Anthracosis?
12. What do you mean by MODY?
13. Write the composition of Atherosclerotic plaque?
14. What is mesothelioma?
15. What do you mean by Anti-GBM disease?



Group - B

Answer any *four* questions :

5×4=20

16. Discuss the role of the p53 gene as the “guardian of the genome” and explain what happens when it loses its function.
17. Describe the hematogenous pathway of metastasis and explain why lungs and liver are common sites for secondary tumor deposits.
18. Explain the basic principle of Immunohistochemistry (IHC). Briefly state how it helps a pathologist when a routine H & stain is not enough.

19. Compare and contrast acute inflammation and chronic inflammation with respect to their cellular infiltrates and roles in disease condition.
20. Briefly explain the mechanism of chemical carcinogenesis, highlighting the roles of initiators and promoters.
21. Differentiate between the sickle cell trait and sickle cell disease.

Group - C

Answer any *two* questions : $10 \times 2 = 20$

22. Briefly discuss the techniques to reach a Laboratory diagnosis of Cancer. Compare the advantages and disadvantage of Fine needle aspiration cytology (FNAC) compared to conventional tissue biopsy. $6+4$
23. What are Tumor Markers? Classify them with suitable clinical examples. Describe the step-by-step procedure of performing Immunohistochemistry (IHC) on a formal-fixed paraffin-embedded (FFPE) tissue section. $5+5$
24. Explain the sequential biochemical and morphological changes that occur during reversible cell injury. Discuss the mechanisms of irreversible cell death due to mitochondrial damage. $6+4$
25. Describe the process of invasion and metastasis of malignant tumours. Briefly describe the viral carcinogenesis with special reference to Human Papillomavirus (HPV). $5+5$