



Date: 10-11-2017

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART – A

Answer ALL the Questions

I. Choose the correct answer

(5 x 1 = 5 Marks)

- In which phase of cell cycle synthesis of DNA takes place ?
a) S phase b) G₀ c) G₁ d) M phase
- Which is the predominant cancer in Women?
a) Lung b) Breast c) Endometrial d) Skin
- Which is a chemical mutagen?
a) EMS b) X-rays c) Beta rays d) Gamma rays
- Inflammation in cancer is due to the presence of what?
a) Interleukins b) Cytokines c) Interferons d) Antigenic peptides
- Arrangement of alleles on a chromosome is called as _____.
a) Haplotype b) Genotype c) Phenotype d) heterotype

II. State whether the following are true or false.

(5x1=5 Marks)

- Cdk is involved in cell cycle.
- Second messengers are present in MAPK pathway.
- OH radicals can be prevented by taking antioxidants.
- C-onc* is expressed during normal embryonic development.
- PCR is used for the molecular diagnosis of cancer.

III. Complete the following

(5 x 1 = 5 Marks)

- Nerve cells are always in _____ phase of cell cycle.
- EPO pathway is also called as _____
- NIH3T3 is a _____ cell line.
- _____ islands methylation occur in cancer.
- MRI _____ technique is used for cancer.

IV. Answer the following within 50 words

(5 x 1 = 5 Marks)

- Define Metastasis.
- What is the significance of CD40?
- What is an antigenic peptide?
- What is the cause of inflammation in cancer?
- Define haplotype.

PART B

Answer the following each within 500 words.

(5 x 8 = 40 marks)

Draw diagrams wherever necessary

21. (a) Discuss apoptosis and cancer.

OR

(b) Explain the experimental models used for the study of carcinogen.

22. (a) Write briefly about prostate and endometrial cancers.

OR

(b) Explain cancer stem cells and its therapeutic implications.

23. (a) Comment about inflammation occurring during cancer.

OR

(b) Discuss heat shock proteins as regulators of immune response.

24. (a) Explain RNAi pathway used for cancer treatment.

OR

(b) Explain mechanism of hormonal induced cancer.

25. (a) Explain 2D electrophoresis used for the separation of tumour protein markers.

OR

(b) Write an account on ultra sound imaging.

PART – C

Answer any TWO of the following, each within 1500 words.

(2 x 20 = 40 Marks)

Draw diagrams wherever necessary.

26. Describe angiogenesis factors and its inhibitors used in cancer therapy.

27. Explain G- protein coupled signal transduction in cancer cells.

28. Discuss chemical carcinogenesis.

29. Write in detail about molecular mechanism of ageing and prevention.
