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0806E486

Candidate's Seat No :_____

M.Sc Sem.-2 Examination

P - 408

Cancer Biology

June 2022

Time : 2-00 Hours] **[Max. Marks : 50**

Instructions:
- All Questions in Section I carry equal marks
- Attempt any THREE questions in Section I
- Question IX in Section II is COMPULSORY
- Illustrate your answers with neat and labeled diagram wherever necessary

Section I

Q-I	A	Write a short note on hypoxia as a mediator of tumor angiogenesis and endogenous inhibitor Thrombospondin-1.	7
	B	Explain the correlation of metastasis with several clinical and pathologic characteristics.	7
Q-II	A	What are capillaries and define the different types of capillaries. Write all about classification of tumors blood vessels and write in short about mother vessels (MVs).	7
	B	Describe how primary tumor can prepare distant organ for metastasis.	7
Q-III	A	Write the names of different modes of cellular mechanisms of blood vessel formation in normal tissues and in tumors. Explain in detail about: 1) Angiogenic Sprouting of Capillaries and 2) Endothelial Progenitor Cells (EPC).	7
	B	Write a short note on miRNA and metastasis.	7
Q-IV	A	Explain all the strategies necessary for the development of antiangiogenic drugs.	7
	B	Describe about bone metastasis.	7
Q-V	A	Briefly write a note on clinical implications of altered prostate carcinoma metabolism.	7
	B	Write a short note about problem with epigenetic therapies.	7
Q-VI	A	Show the relation between Oncogene and Glycolysis with reference to altered metabolism.	7
	B	Explain epigenetic biomarkers for detection of cancer.	7
Q-VII	A	How cancer cell metabolism is different from normal tissue? Justify the statement.	7
	B	Explain about formation of cancer cells by epigenetic changes.	7
Q-VIII	A	Explain how mTOR can be targeted with respect to altered metabolism?	7
	B	Write a note on process of epigenetics.	7

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Section II

Q-IX Multiple Choice Questions 8

A _____ is a process of transcapillary pillar formation inside pre-existing vessels resulting in the formation of new vessels.

a Feeder Arteries and draining veins
b Vasculogenic mimicry
c Mother vessel formation
d Intussusception angiogenesis

B In tumor blood vessels, basement membrane is usually absent, however, in case of _____tumor vessels deposit basement membrane and in case of _____basement membrane is unusually thick.

a Glioblastoma/HCC
b HCC/glioblastoma
c Buccal mucosa/HCC
d HCC/Colorectal cancer

C Seed and soil hypothesis was proposed by _____.

a Stephen Paget
b James Ewing and others
c Fidler and colleagues
d Hellman

D Molecular mediators of extravasation include the cytoskeletal anchoring protein _____, which links the cell membrane to the actin cytoskeleton and engages the cell with its microenvironment.

a Ezrin
b E-cadherin
c Desmin
d β-catenin

E Glycolysis harvests chemical energy by oxidizing _____ to pyruvic acid.

a Lactose
b Galactose
c Glucose
d Fructose

F Instead of fully respiring in presence of adequate oxygen cancer cells _____.

a Undergo fermentation
b Undergo necrosis
c Undergo apoptosis
d Degrade

G Imprinting is caused by _____.

a DNA methylation
b Glycosylation
c RNA methylation
d Lipidation

H _____ characteristic of DNA allows methylation patterns to be maintained through replication and cell division.

a Semiconservative replication
b Recombination and repair
c Topoisomerases
d Deoxyribonucleotide synthesis

—X—