DEPARTMENT OF BIOPHYSICS

UNIVERSITY OF MUMBAI

SAMPLE QUESTIONS

BP-CTT 401 Medical Biophysics

Q.1 **Reduction in dose per fraction**

A) reduces the late normal tissue toxicity

B) increases the treatment time

C) improves deoxygenation

D) decreases the total dose

Q. 2 **Quiescent cells in tumour are**

A) dividing cells

B) differentiated cells

C) capable of division

D) hypoxic cells

Q.3 **Prolongation of radiation therapy**

A) increases the tumour cure

B) reduces the BED due to tumour cell repopulation

C) reduces hypoxic cell resistance

D) increases early reactions

Q.4 **Grids are used in radiography**

A) To reduce the patient dose

B) To reduce the exposure time

C) to intercept the scattered radiation

D) to reduce the exposure time

Q.5 **In LDR brachytherapy the main advantage is**

A) Treatment duration is shorter

B) Normal tissues receive less dose(conformal)

C) Problem of repopulation is overcome

D) All the above

Q.6 **Main advantage of HDR over LDR brachytherapy is**

A) Reduced radiation protection problems

B) reduction in cost of treatment

C) reduction in normal tissue toxicity

D) reduction in total dose

Q.7 **In the range of X-ray energy used for diagnostic radiology the most important type of interaction is**

A) Compton scattering

B) Raleigh scattering

C) Photoelectric interaction

D) Pair production

Q.8 **A cell survival curve describes the relationship between the radiation dose and the**

A) number of cells that have gone through one mitosis after irradiation

B) proportion of cells that remain clonogenic

C) number of cells that have not suffered the loss of a specific function

D) proportion of cells that can produce DNA

Q.9 Ideal source for LDR brachy therapy is

A) I-131

B) Co-60

C) Ir-192

D) F-18

Q.10 **α/β values for tumours are generally in range of**

A) 1-2 Gy

B) 10-20 Gy

C) 3-6 Gy

D) 4-5 Gy