Tanta Faculty of Medicine

Department of General Surgery

Master of Obstetric & Gynecology (لائحة 2013)

General Surgery Examination - February 2021

Time: 3 hours Total marks: 60

All questions should be answered

1-Clinical picture and treatment of hypovolemic shock? (20 marks)

2-Clinical picture and treatment of acute pyogenic breast abscess? (20 marks)

3-Differential diagnosis of right iliac fossa pain? (20 marks)

Good Luck

الإمتحان الشفوى والإكلينيكى بقسم الجراحة العامة بالمستشفى التعليمى الفرنساوى الدور السابع

يوم السبت ٣ أبريل الساعة الثامنة صباحا

Tanta University

Faculty of Medicine

Clinical Oncology Department

Time allowed: 3 hours

M.Sc. Exam 1st part

Clinical Oncology & Nuclear Medicine

Physics of Radiotherapy 21/ 3/ 2021 All questions should be answered:

Marks

1) ***Describe in details the following:*** **6**

a) Write about the different between linear accelerator and Co-60 Machines

b) Describe in detail the modes of decay for radioactive material

2) ***Write briefly about the following:*** **8**

a) DVH.

b) Isodose curve

c) Percentage Depth Dose (%DD)

d) Half value layer (HVL)

3) ***Write short accounts for the following:-*** **6**

a. *the Properties of Brachy-therapy ideal source for Application*
b. *Fundamental concept for radiation protection in radiotherapy department.*
c. *TAR and TMR application in radiotherapy techniques.*

4) ***Describe in detail depth ionization curve for electron beam- interactions – explain all parameters needed for prescribed dose and choice the suitable energy for patient treatment*** **10**

5) ***Choose the correct answer*** **15**

1-Superficial X- ray, compared with 6MeV electron ……..

A- Have a lower skin dose

B- Deliver less dose to underlying tissue

C- Require thicker shielding

D- Have a sharper penumbra.

2- At what SSD will the maximum field size of 40 cm diverge to 56 cm

A- 196 cm

B- 156 cm

C- 140 cm

D- 128 cm

E- 116 cm

3- Advantage of a Multi- leaf collimator over Cerrobend blocks for field shaping include all of the following accept:

A- Decreased time to generate field shaping B- Adjustment to field shaping is faster.

C- Faster setup (no tray to attach to head of machine

D. more conformal

4- Which one of the following is required for generating a conformal treatment plan?

A- GTV

B-CTV

C- PTV

D- Internal margin

E- Set-up error

5- As photon energy increases, surface dose ……and depth of dmax ……

A- Increases, increases

B- Decreases, increases

C- Increases, decreases

D- Decreases, decreases

6- ICRU reports 50 and 62 define as the "variation in size, shape and position of a structure due to breathing, organ motion and organ filling."

A- ITV

B- PTV

C- PRV

D- GTV

7-In an intensity-modulated radiation therapy (IMRT) plan, the physician requests that 95%of the planning target volume (PTV) be covered by 95% of the prescribed dose, with the maximum dose not to exceed 105%. A plan is created with only 85% covering 95% of the volume. Possible reasons include *of the following except:*

A. The PTV is drawn to include part of the build-up region.

B. Manually set field sizes are too small.

C. The photon energy is too low.

D. The PTV overlaps an organ at risk, which has been given high priority.

8- An electron beam enters a patient's surface obliquely. If the MU is calculated for normal incidence, all of the following can be expected except: A. The surface dose increases.

B. The depth of d max = decreases.

C. The depth of the 90% isodose decreases.

D. The depth of the 50% isodose increases.

9- Potential advantage of IMRT includes all the following except:

A- Dose conformity for irregularly shaped volumes.

B- The possible of dose escalation

C- Reduced normal tissue morbidity at conventional doses.

D. Ability to treat a volume with a concave surface, conformally.

E- Simple verification of dose calculation and delivery.

10- A 10 x 10 cm 9 MeV electron field has the 90 % depth dose at approximately ..... cm depth

A- 2.1

B- 2.7

C- 3.6

D- 4.5

E- 9 .0

11- The penumbra of a photon beam increases with

A- Decreasing SSD

B- Decreasing SDD

C- Decreasing Depth in tissue D- Decreasing effective source size E- Increasing field size.

12- Which of the following is true regarding electron beams? The surface dose:

A- is about the same as that of a photon beam of the same energy.

B- Is lower for a beam with a scattering foil than for a scanned beam.

C- Is about the same as that of a superficial X- ray beam (HVL 2.5 mm Al).

D- Increases as energy increases.

13- *X- ray contamination in electron beams is:*

A- Highest for low energy electrons.

B- About 2 % to 5 % for a 16 MeV beam. C. Zero beyond depth Rp.

D- Mostly due to electron interactions in tissue.

14- The Virtual SSD of an electron beam is

A- Always 100 cm on a linac

B- the distance to the end of the electron cone.

C- The distance from the scattering foil to the surface.

D- can be used to calculate the output at different SSDs.

15- Which of the following is not included in the CTV (clinical target volume) as defined by ICRU reports 50 and 62:

A) GTV

B) Internal margin (IM)

C) Setup margin (SM)

D) Lymphatic spread .