

RADIOTHERAPY

PAPER-III

RTH/J/18/41/III

Time: 3 hours

Max. Marks:100

Important Instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

1. With regard to cancer of the anal canal: 1+2+4+3
 - a) What are the common cancers seen?
 - b) Concurrent chemo-radiotherapy in the management of a squamous cell carcinoma.
 - c) Describe radiation portals and dose schedules used.
 - d) Describe the chemotherapy used and its dosing and sequence.
2.
 - a) What are the tumours seen in different parts of a long bone?
 - b) What are the aims of treatment in a case of Ewing's tumour of the bone?
 - c) Discuss the role of chemotherapy and radiotherapy in its management.
 - d) What are radiation portals and doses used?2+2+3+3
3. With regard to malignant supratentorial gliomas: 3+3+4
 - a) What are the salient features of the 2016 WHO classification of malignant gliomas?
 - b) What additional molecular / genetic studies are warranted to treat a grade II astrocytoma diagnosed using conventional histopathology?
 - c) Post-surgical treatment of a grade 3 oligodendroglioma- also state the evidence base.
4.
 - a) What are the signs and symptoms of a patient of carcinoma esophagus?
 - b) How will you triage a patient with carcinoma of the esophagus?
 - c) What is the added value of an FDG PET-CT in a patient with:
 1. No evident metastasis on CECT Thorax-abdomen & pelvis.
 2. Solitary liver metastasis on ultrasound of the abdomen
 - d) Management of infra-carinal squamous carcinoma of the esophagus with tri-modality treatment.2+2+2+4

P.T.O.

5. A 50-year-old male, with no major co-morbidities is diagnosed to have an adenocarcinoma of the gastroesophageal junction with its epicenter 2cm in the cardia. 2+2+6
a) Describe the Siewert classification of such tumours.
b) The patient has severe dysphagia - what should be the first intervention?
c) Disease is clinically T₃N₀M₀ – outline further treatment strategies.
6. a) What are TKIs? 2+2+2+2+2
b) Mention with diagram their mechanism of action.
c) Enumerate the TKIs used in clinical practice.
d) What are the various conditions meriting the use of TKI?
e) What is the present day clinical evidence for their use?
7. a) Enumerate the various emergencies seen in oncology practice. 2+(2+3+3)
b) With regard to the superior vena cava syndrome describe:
1. Causes
2. Signs and symptoms
3. Management
8. a) Explain what are tumour suppressor genes and proto-oncogenes with examples. 3+2+2+3
b) Mechanism of oncogene activation.
c) Inactivation of tumour suppressor genes.
d) Multistep nature of carcinogenesis with example.
9. Tabulate a list of indications and radiation time-dose-fractionation schedules when ionizing radiation is used in non-malignant situations. 10
10. With regard to re-irradiation: 5+2.5+2.5
a) List the considerations when advising re-irradiation for a recurrent tumour.
b) Describe the doses and planning technique for recurrent neck nodes with primary controlled in a head-neck cancer.
c) Describe the doses/drugs and planning technique for recurrent glioblastoma.
