

SURGICAL ONCOLOGY**PAPER-I**Time: 3 hours
Max. Marks:100

SURG.ONCO/J/19/47/I

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. a) Name the types of bias in screening. 1+(3+3+3)
b) Name the available methods used to screen for the following cancers and briefly mention their advantages and disadvantages:
i. Cervix cancer
ii. Breast cancer
iii. Colon cancer
2. a) What are the principles of concurrent chemoradiation? 3+2+3+2
b) What is a radiation sensitizer?
c) Mention some chemotherapeutic agents used as radiation sensitizers and describe their mechanism of action.
d) Mention some molecular targeted drugs which act as radiation sensitizers and their mechanism of action.
3. a) What are the principles of immunotherapy for cancer? 3+4+3
b) Describe in detail any two approaches used for immunotherapy of cancers in general.
c) Mention three immune check point modulators and their therapeutic indications.
4. a) What are DNA adducts? 2+2+6
b) What are the cellular responses to DNA adduct formation?
c) Name three chemotherapeutic drugs which forms DNA adducts, the malignancies they are commonly used in and their toxicity profile.
5. a) RECIST criteria for assessing treatment response and its modifications. 6+4
b) Name three pathological response assessment criteria and describe any one.

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6. a) What is next generation sequencing(NGS)? 2+3+3+2
b) Describe its clinical uses.
c) Mention some other methods of gene sequencing.
d) What are the advantages of NGS over polymerase chain reaction (PCR)?
7. A 35-year old man with two children and no family history of cancer is diagnosed to have more than 100 polyps throughout the colorectum on colonoscopy. 2+4+4
a) What is the likely diagnosis and associated clinical conditions of this syndrome?
b) Describe in brief the molecular pathogenesis of this condition and how will you confirm the molecular diagnosis.
c) How will you screen and if necessary, treat the children of this person?
8. a) Clinical anatomy of the pelvic autonomic nerves relevant to surgery for rectal cancers. 5+5
b) What are the areas at risk for autonomic nerve injury during rectal cancer surgery and what are the precautions you will take to avoid such injury?
9. a) How do you calculate survival in clinical trials? 4+4+2
b) Draw a sample Kaplan Meier Survival Curve.
c) What is the use of censoring the data?
10. a) How do you manage a 25-year-old lady presenting with right thyroid nodule 2x2cm size, with no palpable lymph nodes in the neck and an FNAC report of papillary carcinoma thyroid? 6+4
b) What is her prognosis, calculated using a prognostic scoring system of your choice?
