

MEDICAL ONCOLOGY

PAPER – I

Time : 3 hours
Max. Marks : 100

MED.ONCO/D/12/17/I

Attempt all questions in order.
Each question carries 10 marks.

1. Discuss briefly pharmacology of immunomodulators (thalidomide vs lenalidomide vs pomalidomide) in the treatment of multiple myeloma. 10
2. Discuss the molecular classification of breast cancer. Outline the importance of such classification in the treatment of breast cancer. 5+5
3. Mention the various statistical tools used for 'survival analysis'. Plan a statistical analysis to determine prognostic factors for patients receiving chemotherapy for lung cancer. 4+6
4. Enumerate the histopathological classification of endometrial carcinoma. Outline the molecular pathogenesis of such cancers. Discuss the practical implications of such etiopathogenesis. 4+3+3
5. List various markers of 'tumour proliferation' and briefly discuss their interpretation and clinical value. 4+3+3
6. What is 'stereotactic radiation'? Discuss briefly its role in the treatment of early non small cell lung cancer (NSCLC). 4+6
7. Mention briefly the principle of 'flow-cytometry'. How does this investigation help in the differential diagnosis of chronic lymphoproliferative disorders (CLPD)? 5+5
8. What is 'tumour micro environment'? How is this information helpful in the treatment of epithelial ovarian cancers? 4+6
9. Discuss briefly molecular biology of 'renal cell cancer'. Critically discuss role of sunitinib versus pazopanib versus temsirolimus in the management of renal cell cancer. 4+6
10. Discuss critically the mechanism of resistance to tyrosine kinase inhibitors (TKIs). Mention briefly the value of imatinib versus dasatinib versus nilotinib in treatment of CML. 4+6

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PAPER – II

Time : 3 hours

MED.ONCO/D/12/17/II

Max. Marks : 100

Attempt all questions in order.

Each question carries 10 marks

1. Discuss briefly the various investigations and their interpretation for mid-arm bone tumor in a 10 year old child. 5+5
2. Discuss the etiology of superior vena caval obstruction syndrome in a 28 years old woman. Briefly outline its management. 5+5
3. Outline the staging of rhabdomyosarcoma. Discuss the management of a child with orbital rhabdomyosarcoma. 5+5
4. What is Gleason's score? How will you treat bone metastasis in a 60 year old man with prostate cancer? 5+5
5. Discuss briefly value of a 'peripheral smear' examination in the diagnosis of hematological malignancies. Attempt an interpretation of the various cytochemistry stains in acute leukemias. 6+4
6. Outline an approach to a patient of bone metastasis from an unknown primary. Discuss critically the role of bisphosphonates versus denosumab in the management of bone metastases. 5+5
7. List various malignancies associated with 'infection' as a potential etiology. Briefly discuss the role of HPV vaccines. 4+6
8. Discuss critically the value of various clinical, radiological and biochemical investigations in the diagnosis of 'pancreatic cancer'. 3+4+3
9. A 30 year old man has been diagnosed to have a 'poorly differentiated malignant tumor' on biopsy of a retroperitoneal mass. Discuss differential diagnosis and interpretation of various immunohistochemistry stains and tumor markers to reach a final diagnosis. 5+5
10. Describe briefly the principle of ELISA and quantitative PCR (Q-PCR) with one salient example of its use. 5+5

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PAPER – III

Time : 3 hours
Max. Marks : 100

MED.ONCO/D/12/17/III

Attempt all questions in order.
Each question carries 10 marks.

1. List common pediatric cancers in order of frequency. Discuss briefly epidemiology of childhood non Hodgkin lymphoma. 4+6
2. What is the relationship between obesity and cancer? Outline potential treatment approaches based on the various pathogenetic mechanisms. 5+5
3. What are nutraceuticals? What is the role of micronutrients in cancer prevention? Outline a schema for a study of the role of micronutrients in chronic tobacco users. 3+3+4
4. Define “cytogenetically unfavourable” acute myeloid leukemias. How are such patients managed? 5+5
5. Discuss briefly various methods used for cryopreservation of hematopoietic stem cells. 10
6. What are the histologic types of thyroid cancer? Outline the management of such a patient with lung metastasis. 4+6
7. Discuss briefly various clinical and molecular prognostic markers for stage II/III colon cancer. 4+6
8. Mention indications for neoadjuvant chemotherapy for childhood tumors. Describe treatment of stage III Wilm’s tumor. 4+6
9. Discuss critically therapeutic versus prophylactic platelet transfusion in patients with hematological malignancies. 5+5
10. Briefly describe morphological and molecular differences in Diffuse Large B Cells lymphoma (DLBC) and Burkitt’s lymphoma. How will you treat a 22 year old man with refractory DLBC lymphoma? 6+4
