February-2005

[KM 017] **Sub. Code : 1301**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII — Medical Oncology

Paper I — BASIC SCIENCES

(RADIATION PHYSICS, TUMOUR BIOLOGY, BIOCHEMISTRY, BIOMETRY, IMMUNOLOGY AND PHARMACOLOGY)

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the various etiological factors in causation of cancer, with special emphasis on preventable causes.

(2) Discuss the neoplastic angiogenesis, its role in tumour invasion, metastases and highlight the antiangiogenic strategies.

II. Write Short notes on : (10 × 5 = 50)

(a) Hereditary cancers.

(b) Graft versus Host disease.

(c) Chemotherapy in pregnancy.

(d) Concurrent chemo-radiotherapy in cancer of cervix.

(e) Cell-Cycle.

(f) Docetaxel.

(g) Survival curves.

(h) Long Term venous Access.

(i) Nutrional supplements in cancer.

(j) Breaking Bad News.

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Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay : (2 × 15 = 30)

(1) Discuss the role of flow cytometry in the management of Acute Leukemias.

(2) Discuss the role of stem cells in the management of haematologic malignancies.

II. Short notes : (10 × 5 = 50)

(a) Tumour Lysis Syndrome.

(b) Molecular biology of follicular lymphoma.

(c) Tumour markers in the diagnosis of unknown primary.

(d) Role of radiation in palliative care.

(e) Anaerobic infections in cancer patients.

(f) Bicalutamide.

(g) Chemically induced leukemias.

(h) Evaluation of minimal residual disease in acute leukemias.

(i) Anti fungal therapy.

(j) Myeloma response criteria.

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Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) Discuss the molecular mechanisms of action of retinoids and critically evaluate their role in the prevention and treatment of cancer. (20)

(2) What are antioxidants? Critically evaluate their role in the causation and prevention of cancer. (15)

(3) Discuss the diagnosis and staging classification of lung cancer. (15)

II. Short notes : (6 × 5 = 30)

(a) Role of human papilloma virus in cervical cancer.

(b) Monoclonal antibody therapy of acute myeloid leukaemia.

(c) Human immunodeficiency associated lymphomas.

(d) Hyper fractionated radiotherapy.

(e) Linear energy transfer and relative biologic effectiveness.

(f) Hyper calcaemia of malignancy.

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Paper I — BASIC SCIENCES

(RADIATION PHYSICS, TUMOUR BIOLOGY, BIOCHEMISTRY, BIOMETRY, IMMUNOLOGY AND PHARMACOLOGY)

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Discuss the molecular mechanisms of apoptosis. Evaluate the role of anti apoptotic agents in the treatment of cancer. (20)

2. What are Receptor Tyrosine Kinases? What is the role of Receptor Tyrosine Kinase inhibitors in treatment of cancer? (15)

3. Discuss the diagnosis and staging classification of colon cancer. (15)

II. Short notes : (6 × 5 = 30)

1. Role of Ebstein Barr virus in Burkitt's lymphoma.

2. Post transplantation lymphomas.

3. Monoclonal Antibody therapy in chronic lymphocytic leukemia.

4. Intensity modulated Radiotherapy.

5. Oxygen enhancement ratio.

6. S.I.A.D.H.

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D.M. DEGREE EXAMINATION.

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Branch VII — Medical Oncology

Paper I — BASIC SCIENCES

(RADIATION PHYSICS, TUMOUR BIOLOGY, BIOCHEMISTRY, BIOMETRY, IMMUNOLOGY AND PHARMACOLOGY)

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Illustrate your answer with appropriate diagrams and tables.

I. Essay :

(1) Outline the current schema for the tumor (T) staging of urothelial cancer correlating it with the treatment recommendations. (20)

(2) Classify epidermal growth factors (EGFR). Discuss the role of EGFR blockade in the treatment of malignancy. (15)

(3) Discuss the acute and late toxicity of radiation therapy for paediatric brain tumors and their amelioration. (15)

II. Short notes : (6 × 5 = 30)

(a) Hypermethylation.

(b) Deletion 5 q.

(c) Prophylactic surgery.

(d) Radiation recall phenomenon.

(e) Calretinin.

(f) Number needed to treat.

[KS 017] **Sub. Code : 1301**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII — Medical Oncology

Paper I — BASIC SCIENCES

(RADIATION PHYSICS, TUMOUR BIOLOGY, BIOCHEMISTRY, BIOMETRY, IMMUNOLOGY AND PHARMACOLOGY)

Q.P. Code : 161301

Time : Three hours Maximum : 100 marks

Answer ALL questions.

I. Essay :

1. Briefly discuss tumor cell kinetics its control mechanisms and the mechanism of action of chemotherapeutic agents based on it. (20)

2. Outline the pathogenesis of chemotherapy induced emetic syndromes and discuss its preventive strategies. (20)

II. Short notes : (10 × 6 = 60)

(1) Comparative genomic hybridization

(2) Sorafenib

(3) Major histocompatibility complex

(4) Stereostatic radiotherapy

(5) Hyper fractionation

(6) P-Value

(7) Hyperthermia

(8) Electron threpy

(9) Antiangiopathic agents

(10) Tumor lysis syndrome.

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August 2008

[KT 017] **Sub. Code: 1301**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch VII – Medical Oncology

Paper I – BASIC SCIENCES (Radiation physics tumour biology, Biochemistry, Biometry, Immunology & Pharmacology)

Q.P. Code: 161301

Time: Three hours **Maximum: 100 Marks**

ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40 Marks**

1. Discuss the current status of DNA microarray profiling in the management of malignant tumours.

2. Briefly outline the risk factors and pathogenesis of drug induced cardiotoxicity and its preventive strategies.

II. Write short notes on: **10 x 6 = 60 Marks**

1. Erlotinib.
2. Clonal Evolution.
3. Acute Rejection
4. Partial breast irradiation.
5. Phase III clinical trial.
6. Information modelling.
7. Immunotoxins.
8. Steps in cancer drug development.
9. Continuous hyperfractionated. Accelerated radiation therapy.
10. Goldie – coldman hypothesis.

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