March 2009

[KU 149] **Sub. Code: 2044**

M.D. DEGREE EXAMINATION

Branch XIII – BIOCHEMISTRY
(Common to all Candidates)

Paper II – CELL PHYSIOLOGY, MOLECULAR BIOLOGY AND HUMAN GENETICS
Q.P. Code : 202044

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary
Answer ALL questions

I. Essay questions : **(2 x 20 = 40)**

1. Describe the process of translation in Eukaryotes. Add a note on disorders of post transcriptional modifications.

2. Differentiate human genetics and medical genetics. Give the molecular basics of cytogenetics.

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

1. Programmed cell death.
2. Repeat DNA and mobile DNA elements.
3. Tumour suppressor genes.
4. Regulators of cell cycle.
5. Inducible enzymes.
6. Micro arrays.
7. Different types of DNA.
8. Glucose transporters.
9. Isolation of Nucleic acids.
10. Retinoblastoma.

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September 2009

[KV 149] **Sub. Code: 2044**

M.D. DEGREE EXAMINATION

Branch XIII – BIOCHEMISTRY
(Common to all Candidates)

Paper II – CELL PHYSIOLOGY, MOLECULAR BIOLOGY AND HUMAN GENETICS
Q.P. Code : 202044

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary
Answer ALL questions

I. Essay questions : **(2 x 20 = 40)**

1. Describe the subcellular fractionation by density gradient centrifugation and give the markers for each organelle.

2. Describe the requirements and events of transcription and its regulation.

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

1. Receptor mediated endocytosis.
2. Restriction maps.
3. Molecular basis of xeroderma pigmentosum.
4. Reporter Genes.
5. Protein targeting.
6. Medical ethics in genetic counseling.
7. DNA Electrophoresis.
8. Factors affecting protein synthesis
9. Vectors.
10. Chemical carcinogens.

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March 2010

[KW 149] **Sub. Code: 2044**

M.D. DEGREE EXAMINATION

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Paper II – CELL PHYSIOLOGY, MOLECULAR BIOLOGY AND HUMAN GENETICS
Q.P. Code : 202044

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary
Answer ALL questions

I. Essay questions : **(2 x 20 = 40)**

1. Explain the various steps involved in DNA replication. Indicate the mechanisms available for DNA repair with illustrations.

2. Describe the major steps of recombinant DNA technology used in the invitro synthesis of insulin.

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

1. Class switching of immunoglobulins.
2. Programmed cell death.
3. Micro arrays.
4. Histones.
5. Transport across cell membranes.
6. HLA and disease association.
7. cDNA library.
8. Major histocompatibility complex.
9. Protein targeting.
10. Evidence for prokaryotic origin of mitochondria in eukaryotes.

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