Rajiv Gandhi University of Health Sciences

M.D. Degree Examination – MAY-2018

[Time: 3 Hours] [Max. Marks: 100]

BIOCHEMISTRY

PAPER – I

BIO-ORAGANIC AND BIOPHYSICAL CHEMISTRY, BIOCHEMICAL TECHNIQUES

Q.P. CODE: 7315

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer all the questions **10 X 10 = 100 Marks**

1. Write in detail about the isolation and purification of subcellular organelles, their functions and biochemical markers.
2. Describe the principle, procedure and uses of molecular biology techniques in Biochemistry.
3. Radio immuno assay.
4. Applications of bioinformatics in medicine.
5. Nanotechnology in research.
6. Flame photometry.
7. Acute phase proteins.
8. Ultracentrifugation techniques.
9. Write in detail detection and measurement of stable and radioactive isotopes and add a note on applications.
10. Describe the structure and functions of mucopolysaccharides.

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BIOCHEMISTRY
PAPER – II
INTERMEDIARY METABOLISM AND BIOCHEMICAL GENETICS
Q.P. CODE : 7316

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer all the questions **10 X 10 = 100 Marks**

1. Describe the pathway of gluconeogenesis from alanine. How is the pathway regulated ? Add a note on its energetics.
2. Describe the process of translation in detail. What are the different post translational modifications and inhibitors of translation?
3. Antioxidants.
4. Components of electron transport chain.
5. Phase I detoxification.
6. Lipotropic factors.
7. Salvage pathway of nucleotide synthesis.
8. Polyamines.
9. Describe the steps of catabolism of phenylalanine and tyrosine. Add a note on inborn errors associated with this pathway.
10. Lysosomal storage disorders.

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BIOCHEMISTRY
PAPER – III
ENZYMES, NUTRITION AND SPECIALIZED TISSUES
Q.P. CODE: 7317

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer all the questions **10 X 10 = 100 Marks**

1. Explain the various types of inhibition of enzyme activity with suitable examples.
2. Describe the sources, factors affecting absorption and daily requirement of iron. Add a note on iron deficiency anemia.
3. Blood group antigens.
4. Dietary fibre.
5. Nitric oxide.
6. Mechanisms of enzyme action.
7. Cytoskeleton.
8. Protein energy malnutrition.
9. Specific dynamic action of foods.
10. Methemglobinemias.

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Rajiv Gandhi University of Health Sciences, Karnataka

M.D. Degree Examination – MAY-2018

Time: Three Hours **Max. Marks: 100 Marks**

Biochemistry- PAPER - IV
Clinical Biochemistry
Q. P. CODE: 7318

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary.

Answer all the questions **10 x 10 = 100 Marks**

1. Explain various types of porphyrias. Add a note on the biochemical tests available to evaluate the same.
2. Explain the metabolism of catecholamines. Add a note on vanilyl mandelic acid estimation.
3. Explain the formation, tests and interpretation of glycated haemoglobin.
4. Discuss lipid profile in diabetes mellitus.
5. Chemical composition of cerebrospinal fluid (CSF) in various diseases.
6. Biochemical investigations in nephrotic syndrome.
7. Mechanism of action of steroid hormones.
8. Explain the causes and classify various types of jaundice.
9. Pancreatic function tests.
10. Mucopolysachharoidoses.

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