N-2106121301010001

M. D. Examination

June/July - 2021

Biochemistry : Paper - I

Time : 3 Hours] [Total Marks : 100

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :
☛ M. D.

Name of the Subject :
☛ Biochemistry - I

☛ Section No. (1, 2,.....) : Nil

☛ Subject Code No. :
2 1 0 6 1 2 1 3 0 1 0 1 0 0 0 1

Seat No. :

Student's Signature

1 Write short notes 25

(1) Metabolic pathways of liver

(2) Digestion and absorption of Lipid

(3) Biochemical events occurring during skeletal muscle contraction

(4) Tumor markers

(5) Needle stick injury in laboratory

2 Write short notes 25

(1) Biomedical Medical Waste Management disposal rules

(2) Ferritin and transferrin

(3) Internal quality control outlier.

(4) Problem based learning

(5) Write specification for purchase of fully auto biochemistry analyzer

3 Write short notes 25

(1) Laboratory investigation of a suspected case of Hypothyroidism

(2) MCQ writing

(3) Explain measurement uncertainty and its requirements in ISO 15189:2012

(4) Training and evaluation of technical person working in a clinical laboratory.

(5) Plan objective structured practical examination (OSPE) to check technician's competency for pipetting.

4 Write short notes 25

(1) Dietary fiber-an essential ingredient of food

(2) Characteristics of good LIS

(3) Order of draw for blood collection

(4) Regulation of enzyme activity.

(5) Liposome.

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M. D. Examination

June/July - 2021

Biochemistry : Paper - II

Time : 3 Hours] [Total Marks : 100

Instruction :

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Name of the Examination :
☛ M. D.

Name of the Subject :
☛ Biochemistry - II

☛ Section No. (1, 2,.....) : Nil

☛ Subject Code No. :
2 1 0 6 1 2 1 3 0 1 0 2 0 0 0 1

Seat No. :

Student's Signature

1 Describe classification of diabetes mellitus. What are guidelines for diagnosis of diabetes mellitus ? Explain biochemical changes occurring in diabetes mellitus. Describe the role of biochemistry laboratory in diagnostic and prognostic evaluation of diabetic patients. **25**

2 Write short notes : **25**

(1) Explain any five example of competitive enzyme inhibition

(2) EPA and DHA - biochemical basis of their role in health

(3) Chaperones

(4) Alpha-1 antitrypsin deficiency

(5) HDL metabolism.

3 Write short notes : **25**

(1) Explain biochemical basis of anti-inflammatory and anti-platelet action of aspirin, in context of it's dose and duration of action.

(2) Biochemical significance of any five amino acid with related metabolic pathways.

(3) Biochemical reason for hemolysis in G6PD deficiency and principle of Methelene Blue based screening test for its diagnosis.

(4) Regulation of cholesterol biosynthesis and mechanism of action of stating group of drugs

(5) Differential diagnosis of jaundice based on laboratory investigations.

4 Write short notes : **25**

(1) Biochemical basis of etiology, clinical features, diagnosis and treatment of various hyperhomocystinemia.

(2) Metabolic changes in pregnancy

(3) Source and clinical significant of essential fatty acid

(4) Biochemical basis of etiology, diagnosis and treatment of unconjugated neonatal hyperbilirubinemia.

(5) Amphibolic role of TCA cycle.

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M. D. Examination

June/July - 2021

Biochemistry : Paper - III

Time : 3 Hours] [Total Marks : 100

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :
☛ M. D.

Name of the Subject :
☛ Biochemistry - III

☛ Section No. (1, 2,.....) : Nil

☛ Subject Code No. :
2 1 0 6 1 2 1 3 0 1 0 3 0 0 0 1

Seat No. :

Student's Signature

1 Explain structure of SARS-Co-V-2. Explain its biochemical pathogenesis. Write biochemical basis for various diagnostic strategies for its Covid-19. Give biochemical account of various putative treatment and vaccination. **25**

2 Write short notes : **25**

(1) Pathogenesis of Adenosine deaminase deficiency

(2) Type and effect of the mutation - explain each with example

(3) Explain molecular abnormality and detection technique for sickle cell anaemia

(4) Explain any three different mechanisms of chemotherapeutic drugs.

(5) Inflammatory markers in Covid-19 infections.

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M. D. Examination
June/July - 2021
Biochemistry : Paper - IV

Time : 3 Hours] [Total Marks : 100

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :
☛ M. D.

Name of the Subject :
☛ Biochemistry - IV

☛ Section No. (1, 2,.....) : Nil

☛ Subject Code No. :
2 1 0 6 1 2 1 3 0 1 0 4 0 0 0 1

Seat No. :

Student's Signature

1 Write biology, principle of measurement methods and clinical interpretations of CRP, Ferrtin, D-Dimer, IL-6 and procalcitonin. **25**

2 Write short notes **25**

(1) Write procedure to find new lot of internal quality control mean and sd for L-J chart.

(2) Mandatory requirement in patient report format as per ISO 15189:2012

(3) Methodology for comparison sample result of analyte between different analytic methods and instruments.

(4) Westgard rules for interpretation of QC results

(5) Fully automated biochemistry analyser.

3 Write short notes **25**

(1) Principle of DNA isolation

(2) Explain pre-analytic process for arterial blood gas analysis and it's interpretation.

(3) Primer design for PCR.

(4) Planning and technical requirement of internal audit of laboratory.

(5) Requirements in ISO 15189:2012 about documentation of examination procedures.

4 Write short notes **25**

(1) Structure, Physiological Role, different types of estimation methods, reference range and clinical importance of Troponin.

(2) Verification and release of laboratory result.

(3) Fluorescent probes used in real time PCR.

(4) Lactic acidosis - causes and biochemical basis of expected results of various laboratory examination.

(5) Automation in sample transport.
