

190

M.D. DEGREE EXAMINATION, MARCH 1990.

Branch XIII — Biochemistry

RECENT ADVANCES IN BIOCHEMISTRY AND METABOLIC
DISEASES

Time : Three hours.

Answer ALL the questions.

1. Describe in a sequential manner how you would proceed to synthesize human insulin using Recombinant DNA technology.
 2. Write briefly on :
 - (a) Use of DNA probes in the diagnosis of diseases.
 - (b) Oncogenes and cancer.
 3. Write notes on :
 - (a) Principles and techniques in the use of ELISA in quantitation of hormone levels in blood.
 - (b) Hybridoma technology.
 - (c) Molecular basis of AIDS.
 - (d) High performance (pressure) liquid chromatography.
-

September-1990

294

M.D. DEGREE EXAMINATION, SEPTEMBER 1991

Branch XIII — Biochemistry

Paper IV

RECENT ADVANCES IN BIOCHEMISTRY AND METABOLIC
DISEASES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Describe protein biosynthesis in prokaryotes.
(25 marks)
2. (a) Describe the active and passive transport across cell membranes.
(b) Describe how physical, chemical and biological agents can cause cancer.
(25 marks)
3. Write short notes on :
 - (a) Clonal selection theory of antibody formation.
 - (b) Amniotic fluid analysis for antenatal diagnosis.
 - (c) Nonenzymatic glycosylation of proteins in blood.
 - (d) Diagnosis and management of sickle-cell anemia.
 - (e) Structure and functions of cytochrome. P-450.

(5 × 10 = 50 marks)

March-1991

[294]

M.D. DEGREE EXAMINATION, MARCH

Branch XIII — Biochemistry

Paper IV — RECENT ADVANCES IN BIOCHEM
METABOLIC DISEASES

Time : Three hours

Answer ALL the questions.

1. Describe the structures and functions of
organelles of the cells and mitochondria. How can
membranes be used to study membrane function?
 2. Describe the lipids and glycoproteins
involved in diabetes mellitus.
 3. Write short notes on
 - (a) Role of plasmids and lambda phage
in cloning of DNA.
 - (b) Formation of antibodies by the V_H genes.
 - (c) Gene therapy.
 - (d) Biochemical changes in malignant tumours.
 - (e) Treatment of hypercholesterolemia.
-

M.D. DEGREE EXAMINATION, SEPTEMBER 1992

Branch XIII - Biochemistry

Paper IV - RECENT ADVANCES IN
BIOCHEMISTRY AND
METABOLIC DISEASES

Time: Three hours Maximum:100 marks

Answer ALL questions

1. Discuss the value of Automation and computerisation in Laboratory management and their impact in the organisation of future laboratory.
(25 marks)
2. Discuss the structure and metabolism of Plasma Lipoproteins. How will you classify Hyperlipidemic Disorders
(25 marks)
3. Write short notes on:
 - (a) Lesch-Nyhan syndrome
 - (b) Hybridoma technique
 - (c) 2:3 DPG
 - (d) Angiotensin converting enzyme
 - (e) Renal Glycosuria

_____ (5x10=50 marks)

November-1993

[P R 3 9 5]

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Old/New Regulations)

RECENT ADVANCES IN BIOCHEMISTRY AND METABOLIC
DISEASES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Write a short essay on Recombinant DNA technology. (25)
 2. Give an account of :
 - (a) Post-translational modification of proteins.
 - (b) Role of fibre in nutrition. (25)
 3. Write short notes on :
 - (a) Biological functions of cholesterol.
 - (b) Hybridoma technology.
 - (c) DNA sequencing in doubtful parenthood.
 - (d) Usefulness of laboratory tests in the management of patients with cancer.
 - (e) Eicosanoids. (5 × 10 = 50)
-

April-1994

[VM 1098]

M.D. DEGREE EXAMINATION

Branch XIII — Biochemistry

(Old/New Regulations)

RECENT ADVANCES IN BIOCHEMISTRY AND
METABOLIC DISEASES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Describe the principle and application of gene therapy.
(25)
 2. (a) Write briefly on relationship between cancer, oncogens and growth factors.
(b) Hypolipidemic effects of any two vegetables commonly used in India.
(25)
 3. Write short notes on :
 - (a) Tocopherols.
 - (b) Molecular basis of AIDS.
 - (c) Antifertility vaccines.
 - (d) Liposomes.
 - (e) Defects in melanin biosynthesis in Albinism.

(5 × 10 = 50)
-

[ND 200]

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Old/New Regulations)

RECENT ADVANCES IN BIOCHEMISTRY AND
METABOLIC DISEASES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Give an account of the regulation of gene activity. Explain the mode of action of "Inhibitors of Protein Synthesis". (25)
 2. Describe the molecular basis of insulin action. (25)
 3. Write short notes on :
 - (a) Biologically active peptides.
 - (b) 2, 3-Diphosphoglycerate.
 - (c) Diagnostic Enzymology.
 - (d) Ectopic hormone production.
 - (e) Mitochondrial DNA and structure of Mitochondria.
(5 × 10 = 50)
-

April-1997

MP 166

M.D. DEGREE EXAMINATION
Branch XIII - Biochemistry
(Revised Regulations)

Paper IV - RECENT ADVANCES IN BIOCHEMISTRY
AND MOLECULAR BIOLOGY

Time: Three hours

Max. marks:100

Answer All Questions

1. Describe the tools of genetic engineering, methods of genetic engineering and their applications. (25)
2. What are tumour markers? Describe the methodology to identify them. How do they help in early diagnosis? (
3. Write briefly on:
 - (a) Genetic code
 - (b) Operon concept
 - (c) Translation and post translational modification
 - (d) Cell cycle
 - (e) Oncogenes.

(5x10=50)

MS 164

M.D. DEGREE EXAMINATION

Branch XIII - Biochemistry

(Revised Regulations)

Paper IV - RECENT ADVANCES IN BIOCHEMISTRY
AND MOLECULAR BIOLOGY

Time: Three hours

Max.marks:100

Answer All Questions

1. Describe protein biosynthesis and its regulation. (25)
2. Describe the structure of various types of RNA and the mode of their formation. Give an outline of their biological function. (25)
3. Write briefly on:
 - (a) Mutation
 - (b) Restriction endonucleases
 - (c) Southern blotting
 - (d) Tumour markers
 - (e) Cloning vehicles.

(5×10=50)

SV 175

April-1998

M.D. DEGREE EXAMINATION

Branch XII - Biochemistry

(Revised Regulations)

Paper IV - RECENT ADVANCES IN BIOCHEMISTRY
AND MOLECULAR BIOLOGY

Time: Three hours

Max.marks:100

Answer All Questions

1. What are oncogenes? Discuss in detail the clinical utility. (25)
2. What is polymerase chain reaction (PCR)? Enumerate the steps in detail. Mention its applications. (25)
3. Write briefly on:
 - (a) G.proteins
 - (b) DNA helicase
 - (c) Post-transcriptional modification
 - (d) Molecular basis of sickle cell anaemia
 - (e) Mutations.

(5x10=50)

April-1999

[SG 175]

Sub. Code : 2052

M.D. DEGREE EXAMINATION

Branch XIII - BIOCHEMISTRY

(Revised Regulations)

Paper IV — RECENT ADVANCES IN
BIOCHEMISTRY AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 100 marks

1. Describe the various types of mutation with examples. (25)
 2. Discuss the chemical mediators of inflammation with emphasis on polypeptide growth factors. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Viral oncogenes
 - (b) DNA cloning
 - (c) Tumour markers
 - (d) Okazaki fragments
 - (e) Restriction endonucleases.
-

October-1999

[KA 175]

Sub. Code : 2052

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch XIII — Biochemistry

Paper IV — RECENT ADVANCES IN
BIOCHEMISTRY AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss molecular aspects of acquired immunodeficiency syndrome (AIDS) and the molecular basis of recent approaches to combat HIV infection. (25)
 2. Describe the steps involved in protein biosynthesis. Add a note on inhibitors. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Finger print analysis
 - (b) Tumour necrosis factor
 - (c) Intron
 - (d) Interleukins
 - (e) Topoisomerases.
-

April-2000

[KB 175]

Sub. Code : 2074

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch XIII — Biochemistry

Paper IV — RECENT ADVANCES IN
BIOCHEMISTRY AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 100 marks

1. Discuss the process 'translation'. Name any two inhibitors of translation and explain their mode of actions. Explain how insulin controls the post-transcriptional protein synthesis. (25)
2. What are proto-oncogenes? Discuss the mechanisms by which these proto-oncogenes are activated to oncogenes. What is Burkitt's lymphoma? (25)
3. Write short notes on : (5 × 10 = 50)
 - (a) Post-transcriptional modifications
 - (b) Tumor suppressor gene
 - (c) DNA fingerprinting
 - (d) Catalytic functions of RNA
 - (e) Plasmid and its application in recombinant DNA technology.