UNIVERSITY OF THE PUNJAB

B.A. / B.Sc. Part – II Supplementary Examination - 2018

Subject: Biochemistry-II PAPER: A (Metabolism) Roll No.

TIME ALLOWED: 3 Hrs. MAX. MARKS: 40

NOTE: Attempt any FOUR questions. All questions carry equal marks.

- 1. Write a comprehensive note on the biosynthesis of essential and non-essential amino acids
- 2. Write a note on chemical nature and synthesis of purine ribonucleotides.
- 3. Discuss the glycolytic pathway, its bioenergetics and significance
- 4. Explain the digestion, absorption and transport of lipids
- 5. Write a detailed note on pathway of oxidative phosphorylation
- 6. Explain the oxidation of fatty acids and their regulation
- 7. Write a comprehensive note on muscle contraction
- 8. What are ketone bodies? Outline the steps of formation and utilization of ketone bodies

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B.A. / **B.Sc.** Part – II Supplementary Examination - 2018

``	Roll	No.	••••	•••	••	•	•

- Subject: Biochemistry-II PAPER: B (Molecular Biology)

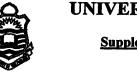
TIME ALLOWED: 15 Min. MAX. MARKS: 7

Attempt this Paper on this Question Sheet only.

<u>c.</u> d above.

	ill be collected back after expiry of time limit menti
Q. No. 1: Select the	host ontine (7)
a. It replicates DN	T. aquaticus is preferred to that of E. coli in PCR because
b. It doesn't requir	
d. It doesn't cause	ed at the melting temperature of DNA
2. A point mutation res	sulte from
a. Substitution of a	base
b. Insertion of a bas	
c. Deletion of a bas	
d. All of these	
3. The shape of a DNA	Molecula is
a. Double heiix	orecate 12
b. triple helix	
c. no heiix	
d. linear	
4. If a DNA molecule con	tains 2007 A
a. 20%	tains 20% A, approximately what percentage of G is present?
ъ. 40%	•
c. 30%	
d. 60%	
5. The codon which serves	as translation start signal is
a. AUG	as translation start signal is
b. UAG	
c. UGA	
d. UAA	
The first protein synthes	ired by
a. Streptokinase	ized by recombinant DNA technology was
b. Human growth hormo	une.
c. Tissue plasminogen ac	ne Sivator
d. Human insulin	on value
	tion of a gone
ntaining no more than	tion of a gene composed of 30 nucleotides would form a protein
a. 10	
b. 15	•
c. 60	
d. 90	

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Subject: Biochemistry-II
PAPER: B (Molecular Biology)

TIME ALLOWED: 2 Hrs. & 45 Min. MAX. MARKS: 28

Attempt this Paper on Separate Answer Sheet. Attempt any FOUR Ouestion All questions carry equal marks

- Q.2 Describe the process of translation in Prokaryotes. Also discuss the roles of the Shine-Delgarno Sequence, codons, anticodons, the small ribosomal subunit, the large ribosomal subunit, amino acids, peptide bonds, and releasing factors in translation. (7)
- Q.3 Explain the process of transcription in Prokaryotes. Include in your answer, a discussion of the role of the promoter, a detailed description of initiation, clongation and Rho-dependent and Rho-independent termination of transcription. (7)
- Q.4 a) What is replication fork? Also discuss the role of Okazaki fragments and DNA gyrase in replication process of prokaryotes. (3)
- b) Name and differentiate between three types of DNA (4)
- Q.5 a) What are different types of RNA? Discuss the role of tRNA in protein synthesis. (3)
- b) Discuss the key primer designing rules for PCR. Also enlist applications of PCR. (4)
- ${\bf Q.6~a)}$ Discuss the principle and applications of ultralitration. (3)
- b) Describe the process of DNA replication in eukaryotes. (4)
- ${f Q.7~a)}$ Discuss the principle and applications of ultrafiltration. (3)
- b) Describe the application of UV/Visible spectroscopy for analysis of proteins. (4)
- Q. 8 Write a note on post transcriptional processing, (7)