

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Molecular Biology

Subject Code: 4SC02MOB1

Branch: B.Sc.(All)

Semester: 2

Date: 09/05/2017

Time: 02:00 To 05:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1 Attempt the following questions: (14)

- | | | |
|----|--|---|
| a) | What is the contribution of Avery, Macleod and Maccary? | 1 |
| b) | What is central dogma of life? | 1 |
| c) | Define Nucleoside. | 1 |
| d) | Enlist difference of nitrogenous bases found in DNA and RNA. | 1 |
| e) | Give name of double ring containing nitrogenous bases. | 1 |
| f) | What is the full form of AMP? | 1 |
| g) | How many phosphate groups are present in monomer of DNA? | 1 |
| h) | What is the role of ligase? | 1 |
| i) | Which multienzyme does polymerization during replication? | 1 |
| j) | Initiation of replication occurs at which site? | 1 |
| k) | DNA synthesis is semidiscontinuous and bidirectional. True or False? | 1 |
| l) | Define transcription of DNA. | 1 |
| m) | Define posttranscriptional modification of RNA. | 1 |
| n) | What are stop codons? | 1 |

Attempt any four questions from Q-2 to Q-8

Q-2 Write notes on: (14)

- | | | |
|----|---|---|
| a) | Historical perspective of discovery of DNA structure. | 7 |
| b) | Organization of DNA in prokaryotes. | 7 |

Q-3 Write notes on: (14)

- | | | |
|----|--|---|
| a) | Salient features of DNA structure and draw a double helical DNA structure of B-type with labels. | 7 |
| b) | Organelle DNA found in Eukaryotic cell. | 7 |

Q-4 Attempt all questions (14)

- | | | |
|----|---|---|
| a) | Write process of transcription in prokaryotes. | 7 |
| b) | Write the processing steps followed for RNA after completion of transcription | 7 |



process.

- Q-5** **Write notes on:** **(14)**
- a) Enzymes of replication in prokaryotes. **7**
 - b) Process of translation from mRNA to polypeptide chain in prokaryotes. **7**
- Q-6**
- Discuss in detail about the process of replication in prokaryotes. **14**
- Q-7** **Attempt all questions** **(14)**
- a) Enlist various differences found in replication process of Prokaryotes and eukaryotes. **7**
 - b) Write a note on various RNA structures found in cell. **7**
- Q-8** **Write notes on:** **(14)**
- a) Process of regulation of expression with example of lac operon. **7**
 - b) RNA polymerase enzyme. Discuss its role in prokaryote and eukaryote. **7**

