

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.

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**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**

