GURUDAS COLLEGE

B. Sc. SEMESTER V (Honours) Odd Semester Examination, 2021
Online Internal Assessment
Subject: BOTA
Subject Category: Honours
CORE COURSE-11
Course: **BOT-A-CC-5-11-TH**
Course Name: **CELL AND MOLECULAR BIOLOGY**
Date of Examination: 3rd Jan, 2022

All questions carry equal marks

Full Marks – 10   Time – 30
minutes

Answer the following multiple-choice questions (**any 5**):   5X2=10

1. Endosymbiotic theory was proposed by

    a) Watson

    b) Margulis

    c) Lee

    d) Haldane

2. NOR is involved in the synthesis of

    a) mRNA

    b) rRNA

    c) miRNA

    d) tRNA

3. The function of G$_1$ cyclin is

    a) Activated cdk1 for M phase

    b) Dephosphorylation of cdk

    c) Phosphorylation of cdk

d) Activated cdk1 for S phase

4. A DNA sequence is read by an RNA polymerase that produces complementary antiparallel RNA strand known as

   a) Hexa transcript
   b) Secondary transcript
   c) Primary transcript
   d) Tertiary transcript

5. The genetic code is degenerated. Which of the following codons represents the principle of degeneracy?

   a) UAA and UAC
   b) AUG and AUA
   c) CAU and CAC
   d) UUA and UUC

6. Which of the followings is not required for Polymerase Chain Reaction?

   a) A primer with a 3-OH group to which new nucleotides can be added.
   b) A bacterial cell for amplifying the DNA.
   c) A single-stranded DNA template.
   d) Magnesium ions and other salts those are necessary for the reaction to proceed.

7. Which of the following is the correct option regarding the lac operon in *E.coli*?

   a) Lac operon is switched on in the absence of lactose
   b) Lac repressor binds to the lac promoter
   c) β-galactosidase is the only enzyme produced in large quantities when lac operon is turned on
   d) lac operon messenger RNA is a polycistronic mRNA

8. HaeIII is a name of

    a) a restriction endonuclease

    b) a plasmid vector

    c) a phagemid

    d) a cosmid

Instructions for submission of answer scripts

1. Write the front page/top sheet as per instruction.
2. Scan the pages in sequence and make a single PDF file.
3. Rename file as per instruction.
4. Email the PDF file within the stipulated time to the following

Email ID

1. gdcexamhons@gmail.com

2. botahons2020@gmail.com
3. botasem2gdc@gmail.com