Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

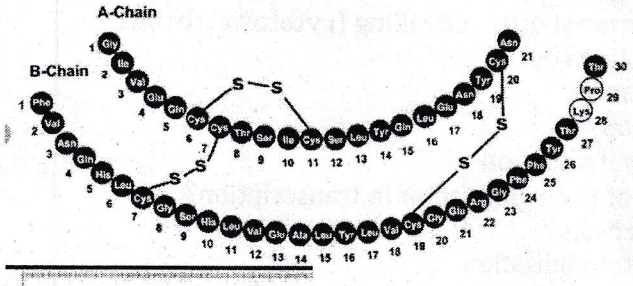
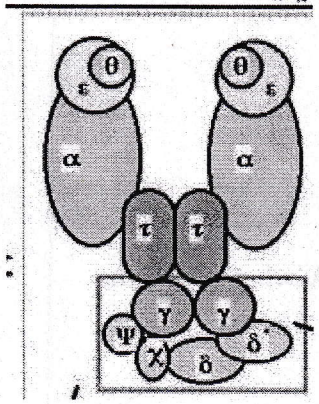
School: School of Science
Program/s: BSc Life Science
Year: 3rd **Semester:** 5th
Examination: End Semester Examination
Examination year: December - 2021

Course Code: LS301 **Course Name:** Molecular Biology, Endocrinology and Phytohormones
Date: 01/12/2021 **Total Marks:** 40
Time: 11:30 AM to 01:30 PM **Total Pages:** 2

Instructions:

- *All questions are compulsory.*
- *Draw neat labelled diagrams wherever required.*
- **COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q. No.	Details	Marks	COs*	BTL#
Q.1	**A) Choose the correct options (5)** 1. In terms of DNA and RNA structure, what is a nucleotide? a. A nucleotide is a heterocyclic base b. A nucleotide is a sugar molecule covalently bonded to a heterocyclic base c. A nucleotide is a sugar molecule bonded to phosphate group/s and a heterocyclic base d. A nucleotide is a heterocyclic base bonded to phosphate group/s 2. Which cancer treatment uses cell killing (cytotoxic) drugs? a. Biological therapy b. Chemotherapy c. Radiotherapy d. Total body irradiation 3. What is the work of the sigma factor in transcription? a. Helicase action b. Transcription initiation c. Transcription elongation d. Transcription termination 4. _____ is a gaseous plant hormone a. IBA b. Ethylene c. Abscisic acid d. Cytokinin 5. A piece of double stranded DNA has 30% A, what will be the % of G? a. 30% b. 40% c. 70% d. 20%	10	CO1, CO2, CO3, CO4	BT1, BT2, BT3

	B) State the following statement is true or false and provide justification for both the cases (5) 1. DNA exists in a double-stranded form whereas RNA is mainly a single stranded molecule, as double stranded DNA is more stable. 2. Like replication, transcription also occurs bidirectionally. 3. All tumor cells are cancerous cells. 4. Stop codons act as 'stop' translation signals and none of them code for an amino acid. 5. Corticosteriod is a plant hormone, helping in senescence.			
Q.2	**Answer the questions in brief (2*5=10)** 1. Define oncogene 2. Name the hormones released by kidney and state its function 3. What is post translation modification and state its significance. 4. State the difference between Rho independent and Rho dependent termination in prokaryotes. 5. Differentiate between replication in Prokaryotes and Eukaryotes (4 points)	**10**	CO1, CO2, CO3, CO4	BT1, BT2, BT3
Q.3	**Answer the questions in details any 4 (4* 4=16)** 1. Describe histology of thyroid gland and explain any one disease condition associated with thyroid hormone. 2. Explain the structure of eukaryotic rRNA and tRNA. 3. Discuss the role of aldosterone in blood pressure regulation. 4. Write a short note on initiation of transcription in prokaryotes. 5. Write a detail account on types of cancer and their treatment.	**16**	CO1,CO2 CO3,	BT1, BT2,BT3
Q.4	**Do as directed (2*2=4)** 1) A new supervisor at a local hospital decides to rotate the nursing staff to a different shift every week so that one group of employees is not always "stuck" on an undesirable shift. From a physiologic viewpoint, do you think this proposal is advisable? 2) Identify (a and b) a.  b. 	**4**	CO1, CO3	BT1, BT2, BT3

**********End of Question Paper**********