Enrollment No _____

NAVRACHANA UNIVERSITY
a UGC recognized University

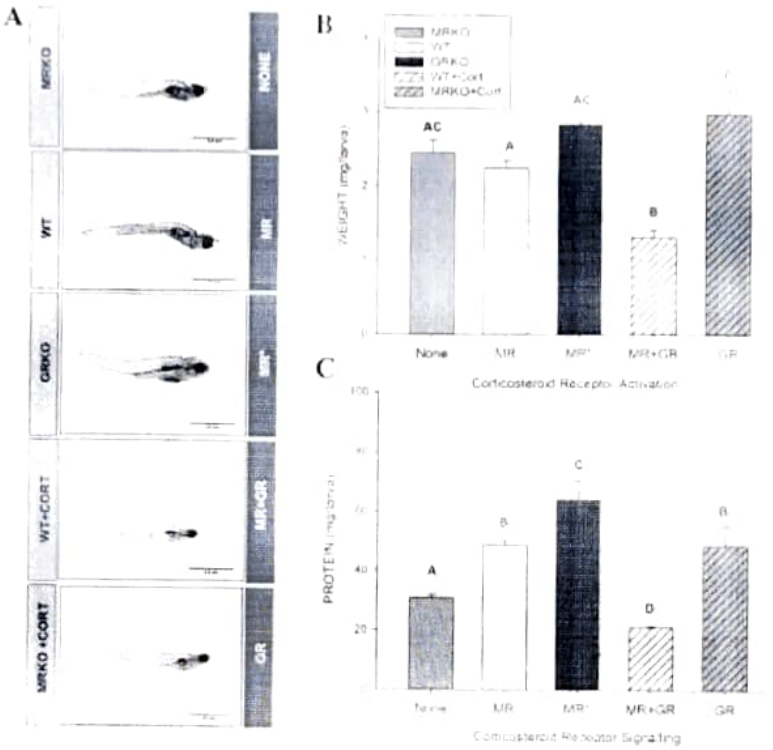
School: School of Science
Program/s: BMS
Year: 5th **Semester:** IX
Examination: End Semester Examination
Examination year: December - 2022

Course Code: BM507, **Course Name:** Molecular Medicine III
Date: 06/12/2022 **Total Marks:** 40
Time: 11.30 am to 13.30 pm **Total Pages:** 03

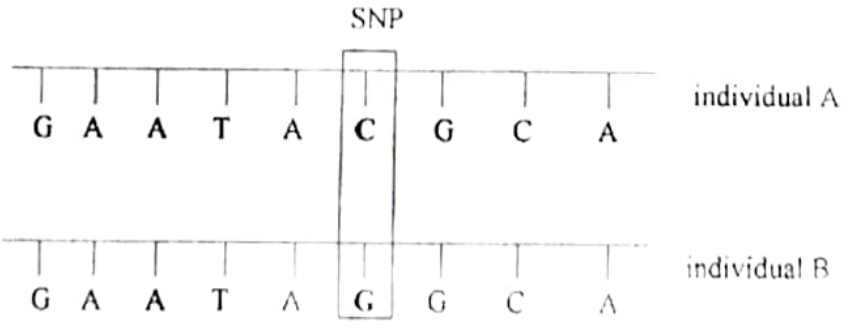
Instructions:
- *Write each answer on a new page.*
- *Draw the diagram wherever necessary*
- *Stick to the Word Limit given in the Questions.*

Q. No	Details	Marks	CO	BTL
Q.1	**Do as directed** 1. Among the various gene therapies, _____ therapy excludes 50% of patients from treatment due to pre-existing immunity to the viral capsids 2. For construction of the BAC map, _____ positions of individual clones can be mapped by refereeing to the landmarks from existing available maps. 3. In haplotype, there is a stretch of DNA with a characteristic pattern of _____ present on a given loci of the Chromosome. 4. What will be the condition of the progeny if the father is normal, while the mother has one gene for hemophilia and one gene for color blindness on one of the X chromosomes? a. Only daughters are hemophilic and color blind b. Both sons and daughters will be hemophilic and color blind c. 50 % haemophilic and colour blind sons and 50% normal sons d. 50 % haemophilic colour blind daughters and 50% colour blind daughters 5. _____ and _____ are the considered to be the main reason for the development of third type of neurofibromatosis. 6. In a disease- learning, thinking and health conditions are mostly affected in Child in which is due to _____ occurring on _____.	1x8=8	CO 1 CO2 CO3 CO4	BTL 1 BTL2 BTL3 BTL4
Q.2	**Answer the following (20-30 words only per answer)** 1. In models of Epigenetics, in model A Justify "Both gene duplicates have the same expression pattern". 2. What are Pseudogenes? Explain any one model having pseudogenes importance. 3. What according to you are the drawbacks of Epigenetics Model A, B and C?	2x4=8	CO 1 CO2 CO3 CO4	BTL 1 BTL2 BTL3 BTL4

	4. A disorder where tumor happens on Nerves and has family history being one of the major risk factor. This disorder has 50% chances of carrying the altered allele to the next offspring. Identify the disease, causes and its types (if any)			
Q.3	**Answer the following (max 300-350 words per answer)**	6x4=24	CO 1 CO2 CO3 CO4	BTL 1 BTL2 BTL3 BTL4



1. Consider the above diagram which shows the MR and GR gene expression in Zebra fish. With the help of graph answer the following questions:
   a. Define all the conditions and how it is important for carrying out the experiments.
   b. What will happen if you supply excess of cortisol to additionally apart from the given group.
   b. Infer the Graphs B & C and deduce a definite conclusion.
2. A drug was tested on these two individuals having a transition mutation which was found in the DNA sequence at a stretch of ~1500 sequences. What will happen:



   a. When a drug will be tested on both of the individuals.