

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

MSc-I Semester (BT/BI)

COURSE CODE (CREDITS):20MS1BT113 (2)

MAX. MARKS: 35

COURSE NAME: Plant and Animal Biotechnology

COURSE INSTRUCTORS: Dr. Udayabanu & Dr. Hemant

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
Q1	Conceptualize the methodology for the production of the genetically modified plant of <i>Datura innoxia</i> having gene DR -1 of disease resistance from <i>Bacillus thuringensis</i> and gene RD-2 for the production of phenolic compounds. Which Biopharming strategy would you like to use to develop desirable products?	6
Q2	<i>Rhodiola imbricata</i> was known for its dominant antioxidant property and was procured from Leh Valley. How would you like to conceptualize a methodology for the production of phytochemicals from the <u>in-vitro-grown</u> shoots of this herb? Explain the complete outline for the production of bioactive compounds and its extraction	6
Q3	Explain with reason: a. Plant Molecular Pharming is advantageous or not b. Transgene pollution can be controlled or not c. Genomics is useful in different biological sciences or not	3*2=6
Q4	Develop a live-born mammalian clone. Summarize the two methods used in reproductive cloning.	5
Q5	Justify the complexity of genomics and address the types of variants in the genome, their potential consequences and the methods/techniques to untangle them	6
Q6	Critically assess the advantages of RFLP, RAPD, SSR and AFLP in DNA finger printing. Suggest which one is best and why?	6