



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Bio Sciences and Technology

Continuous Assessment Test – II

Programme Name & Branch: B.Tech. Biotechnology

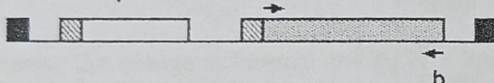
Course Name & Code: BBIT307L Plant Biotechnology

Class Numbers: 0205, 0206, 0207, 0208, 0209

Slot: C1+TC1 & C2+CT2

Exam Duration: 90 Min

Maximum Marks: 50

No.	Questions (5 x 10 = 50 Marks)	CO	BL																																			
1	There are many ways of verifying the transformation of a plant, each with its advantages and disadvantages. The construct shown below contains two genes, under the control of the 35S promoter, between the T-DNA left and right borders. The DRR206 gene has been shown to provide some resistance to the blackleg fungus in transgenic canola. The nptII gene encodes neomycin phosphotransferase. The following table lists a number of possible experiments, and the types of information that might be obtained. A "yes" means that the experiment is likely to provide a particular type of information. A "no" means that the experiment will not tell us that information. Fill the table using yes/no answers. LB 35S nptII 35S a DRR206 RB  <table><thead><tr><th></th><th colspan="4">What the experiment tells us:</th></tr><tr><th></th><th>Presence of DRR206 gene</th><th>Copy no. of DRR206 gene</th><th>Expression of DRR206</th><th>Presence of nptII gene</th></tr></thead><tbody><tr><td>PCR using primers a and b</td><td></td><td></td><td></td><td></td></tr><tr><td>Southern blot using DRR206 gene as a probe</td><td></td><td></td><td></td><td></td></tr><tr><td>Northern blot using DRR206 as a probe</td><td></td><td></td><td></td><td></td></tr><tr><td>assay for root growth in kanamycin</td><td></td><td></td><td></td><td></td></tr><tr><td>test for resistance to blackleg</td><td></td><td></td><td></td><td></td></tr></tbody></table>		What the experiment tells us:					Presence of DRR206 gene	Copy no. of DRR206 gene	Expression of DRR206	Presence of nptII gene	PCR using primers a and b					Southern blot using DRR206 gene as a probe					Northern blot using DRR206 as a probe					assay for root growth in kanamycin					test for resistance to blackleg					3	4
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2	Describe the various types of promoters used in plant transformation vectors with suitable examples.	3	3																																			
3	How are the marker-free plants developed? Explain with suitable diagrams.	4	3																																			

