

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BE
BRANCH: BT

SEMESTER : VII
SESSION : MO/19

SUBJECT: BT8021 BIOTECHNOLOGY MANAGEMENT

TIME: 3:00 HOURS

FULL MARKS: 60

INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Differentiate the important characteristics of semiskilled and skilled workforces. [2]
Q.1(b) Discuss the important steps of recruitment procedure in an industry. [4]
Q.1(c) What different types of training are required for skilled, semiskilled and unskilled workforces before their induction in the enterprise? [6]
- Q.2(a) Define real and experimental variability. [2]
Q.2(b) With example, differentiate between correlation and regression analysis in biostatistics. [4]
Q.2(c) Find mean, standard deviation (SD) and standard error (SE) for the data; 123, 116, 112, 125, 143, 107, 120, 137, 132 and 140. Demonstrate the $\text{mean} \pm \text{SD}$ and $\text{mean} \pm \text{SE}$ with graphical plots. [6]
- Q.3(a) What do you understand by market segmentation? [2]
Q.3(b) Write about the important bases for segmenting consumer market. [4]
Q.3(c) Discuss the important steps of market segmentation procedure. [6]
- Q.4(a) What are the important economic impacts of biotechnological development? [2]
Q.4(b) What is the need of biosafety guidelines in research and development in biotechnology? [4]
Q.4(c) Discuss the main societal, legal, economic and clinical concerns arise from the use of genetically modified organisms. [6]
- Q.5(a) How packaging and branding is important for a product? [2]
Q.5(b) Write the important steps of the procedure of branding of a new product. [4]
Q.5(c) Discuss the procedure of designing an effective advertising policy of new product. [6]
- Q.6(a) What are the important categories of biological wastes produced in a laboratory? [2]
Q.6(b) Illustrate important points of 'Good Laboratory Practices'. [4]
Q.6(c) Discuss the procedure of waste labeling and their disposal process in a modern biotechnology laboratory. [6]
- Q.7(a) Write the importance of biotechnology industries for the nation. [2]
Q.7(b) What are the essential components of a new biotechnology enterprise? [4]
Q.7(c) With the SWOT analysis, explain the features of an Indian biotechnology or pharmaceutical firm as an industrial case study. [6]

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