JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION-2025

M.Sc.-I Semester (BT)

COURSE CODE (CREDITS): 21MS1MBT113 (2) MAX. MARKS: 35

COURSE NAME: FUNGAL BIOLOGY

COURSE INSTRUCTORS: DR. JATA SHANKAR MAX. TIME: 2 Hour

Note: (a) All questions are compulsory.

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

Q. No	Questions	Marks
Q1	What are aflatoxins, and which fungal species are responsible for their production? Additionally, explain the concept of the One Health approach and describe the permissible limits of aflatoxin contamination in food items for food and animals' feed	5
Q2	Explain why yeast fermentation in commercial bread dough causes the dough to rise and become fluffy. Also, when 10 molecules of glucose undergo fermentation, how many total ATP molecules are produced during the Process?	5
Q3	Name two or more species belonging to Zygomycota and the life cycle of pathogenic fungi, such as mucor?	5
Q4	During yeast-mediated alcoholic fermentation, how many molecules of ethanol are formed from 20 molecules of glucose? Show the biochemical steps that support your calculation.	5
Q5	*Saccharomyces cerevisiae* serves as a model organism, illustrating the stages in its life cycle. Provide the estimated number of genes and genome size of *Saccharomyces cerevisiae*?	5
Q6	Describe the major phyla used in the classification of fungi. For each fungal phylum, provide its key characteristics and cite at least one representative species as an example	4
Q7	Notes on a. Tempeh or Sake b. Major Nutraceutical Components of Mushrooms c. Smut Fungi	 2 2 2