

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION-2025

M.Sc.-I Semester (BT)

COURSE CODE (CREDITS): 21MS1MBT113 (2)

MAX. MARKS: 25

COURSE NAME: FUNGAL BIOLOGY

COURSE INSTRUCTORS: DR. JATA SHANKAR

MAX. TIME: 1 Hour 30 Min

**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	Explain the process of tempeh production, including the microorganisms involved, fermentation conditions, and the nutritional benefits of tempeh as a food product	4
Q2	Describe in detail the composition of the cell wall of conidia and mycelia. Include the major biochemical components and their functions.	4
Q3	Demonstrate the life cycle of smut fungi ( <i>Ustiligo maydis</i> ) or rust fungi with different stages in the host tissue to complete the life cycle. What are the factors host tissue produce in response to the fungal infection? What is the duration to complete the life cycle	4
Q4	Describe the process of mushroom cultivation (button mushroom), including the preparation of the substrate, inoculation, incubation, and harvesting stages. What are the key environmental conditions required for optimal growth	4
Q5	What is an appressorium? Describe its structure, formation, and role in the infection process of plant pathogenic fungi	4
Q6	What are aflatoxins? Describe their sources, the names of the fungal species, the conditions that promote their production, and their impact on human health and agriculture. What are the permissible limits of Aflatoxins for humans in India	5