

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION-2024

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	Draw a well-labeled life cycle of a common Mushroom predicting Asexual and Sexual mode reproduction	4
Q2	Describe the detailed composition of cell-wall of conidia and mycelia with a labelled diagram	2
Q3	Demonstrate the life cycle of smut fungi (<i>Ustilago maydis</i>) or rust fungi with different stages in the host tissue to complete the life cycle. What are factors host tissue produces in response to the fungal infection? What is the duration to complete the life cycle	5
Q4	What is the genome size of Rust fungi and the estimated number of genes in the genome	4
Q5	Name five species belonging to Ascomycota or Basidiomycota and their economic/ agricultural or industrial relevance.	4
Q6	Draw the stages in the life cycle of a model organism <i>Saccharomyces cerevisiae</i> and the time duration to complete the life cycle	2
Q7	The benefits of fermented foods are making headlines more and more these days. We are encouraged to eat things like yoghurt and sauerkraut as probiotics that develop our "good bacteria". The term "fermentation" comes from the activity of microbes (the "ferments") as they digest, multiply and colonize a food. While most fermented foods are made with bacteria, apply it to those prepared using fungi such as Tempeh or Sake- give details analyses of these fermented food products.	4