

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2024)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER : IV
SESSION : SP/2024

SUBJECT: BE214R1 NATURAL PRODUCT BIOTECHNOLOGY

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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			CO	BL
Q.1(a)	Choose any <u>two</u> sources from which natural products can be obtained citing suitable examples in each case	[2]	CO1	3
Q.1(b)	Identify and compare the different metabolites synthesized by biological sources giving <u>two</u> suitable examples in each case	[3]	CO1	2,4
Q.2(a)	Analyze the role of Shikimic acid in the interrelationship between primary and secondary metabolites	[2]	CO1	4
Q.2(b)	Evaluate the phytochemicals that are secondary metabolites and used as drugs giving <u>two</u> examples	[3]	CO1	6
Q.3(a)	Interpret the importance of phenolic compounds as natural products citing suitable examples	[2]	CO1	3
Q.3(b)	Assess the significance of natural compounds produced by microorganisms giving <u>two</u> suitable examples	[3]	CO1	6
Q.4(a)	Illustrate Alkaloid biosynthesis pathway with a suitable example	[2]	CO2	3
Q.4(b)	Explain the Shikimic acid biosynthesis pathway and interpret its importance in production of secondary metabolites	[3]	CO2	2,6
Q.5(a)	Categorize and explain the tests performed for screening of any <u>one</u> plant secondary metabolite	[2]	CO2	4
Q.5(b)	Organize the steps used for screening of microbes with ability to produce bioactive compounds giving <u>one</u> suitable example	[3]	CO2	5

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