

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BTECH  
BRANCH: BIOTEHNOLOGY

SEMESTER : IV  
SESSION : SP/2025

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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Q.1(a)	Classify the sources of natural products citing <u>one</u> suitable example in each category	[2]	CO1	BL 2
Q.1(b)	Evaluate the importance of secondary metabolites giving two suitable examples	[3]	CO1	5
Q.2(a)	Classify the phytochemicals and identify any <u>two</u> of them that are used as drugs giving examples	[2]	CO1	4
Q.2(b)	Interpret giving <u>two</u> examples that major primary and secondary metabolites are interrelated	[3]	CO1	5
Q.3(a)	Identify the significance of alkaloids giving <u>one</u> example	[2]	CO1	3
Q.3(b)	Assess the importance of metabolites produced by microorganisms giving suitable examples	[3]	CO1	5
Q.4(a)	Illustrate the Shikimic acid biosynthesis pathway	[2.5]	CO2	2
Q.4(b)	Interpret the correlation between phenylpropanoids biosynthesis and the shikimic acid pathway	[2.5]	CO2	5
Q.5(a)	Select and explain the qualitative and quantitative test performed for screening of any <u>one</u> phytochemical	[2]	CO2	3
Q.5(b)	Determine the method for screening microbes with bioactivities by giving <u>one</u> suitable example	[3]	CO2	5

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