

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

CLASS: BTECH
BRANCH: MECH

SEMESTER : VII
SESSION : MO/2024

SUBJECT: PE417 PRODUCTION MANAGEMENT

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 What are the major five factors according to you that affects the decision regarding plant location selection? Explain why. [2.5+2.5] CO 1 BL 2

Q.2(a) What is an activity relationship chart? [2] 1 1

Q.2(b) Develop a feasible plant layout using the activity relationship chart given below: [3] 1 4

	HBT	SST	REHS	GD	CFT	SPRT	OFC
HBT		U	U	I	O	U	U
SST			U	I	O	U	U
REHS				I	O	U	U
GD					O	U	U
CFT						X	O
SPRT							U
OFC							

BIT Mesra Electricity Supply department wants to forecast the diesel requirement for its generators for the next year in order to provide uninterrupted electricity. Following table provides the details of diesel requirement over the last 10 years. Using this data, answer the question 3,4, and 5

Period	Diesel Usage (in kilo-liters)
1	850
2	950
3	900
4	894
5	970
6	1049
7	980
8	1258
9	1150
10	1350

Q.3 Develop a scatter plot of the data given above and suggest an appropriate forecasting method that should be adopted by the Electricity Supply Department of BIT Mesra. [5] 2 4

Q.4 Use the suggested method by you at question no. 3, and calculate the forecasted diesel requirement for the next year. [5] 2 3

Q.5 Calculate the Mean Squared Deviation (MSD) of the method applied by you in this case. [5] 2 3

:::27/09/2024 M:::