INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPARTMENT/CENTRE: Department of Management Studies

1. **Subject Code:** BMN-621 **Course Title:** Spreadsheet Modelling
2. **Contact Hours:** **L:** 3 **T:** 0 **P:** 0
3. **Examination Duration (Hrs.):** **Theory:** 2 **Practical:** 0
4. **Relative Weightage:** **CWS:** 50 **PRS:** 0 **MTE:** 0 **ETE:** 50 **PRE:** 0
5. **Credits:** 1.5 **6. Term:** IV/V/VI/VII
7. **Pre-requisite:** Nil **8. Subject Area:** PEC
9. **Objective:** To introduce the participants to advanced interactive features of the popular spread sheet packages and the programming languages such as Visual Basic for Applications (VBA), embedded in some popular spreadsheet packages.

10. Details of the Course

S.No.	Contents	Contact hours
1.	**Recap of Basics of Excel and Database Arithmetic** – VLOOKUP, HLOOKUP, Advanced Filtering, PIVOT Table	2
2.	**TEXT and DATE Handling –** Code, Char, and Date Functions	2
3.	**Array Functions, Matrix Operations and Regression**	2
4.	**Simulation**, **Macros and Solver Feature** – Introduction to VBA Environment, Sub and Functions in VBA – Introduction using elementary examples	4
5.	**If Then, Else Condition in VBA –** Introduction to control constructs, **Loops in VBA – For .. NEXT, Loops in VBA – Do ..LOOP, Select Case** Control Construct	4
6.	**Arrays in VBA,** Declaring arrays and Elementary Examples, Solving Travelling Salesman Problem and Bin Packing problem using a heuristic, User Forms in VBA	5
7.	**Examples to enhance the usage of interactive version of spreadsheet –** Goal Seek, Generalized VLOOKUP, etc.	2
Total		**21**

11. Suggested Books:

S.No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Winston Wayne, Microsoft Excel 2019 Data Analysis and Business Modelling, Microsoft	2019
2.	Ragsdale Cliff, Spreadsheet Modelling & Decision Analysis, 6th Ed, Cengage	2010
3.	Spreadsheet Through Examples: Microsoft Excel 2010 Version. (IIMA)	2013
4.	https://www.excelfunctions.net/excel-vba-tutorial.html VBA tutorial	WebLink
5.	https://powerspreadsheets.com/create-excel-userforms/ User Forms tutorial	WebLink