Indian Institute of Technology Guwahati
Proposal for a New Course/ ~~Revision of a Course~~

Course Number & Title: BM 719 & Advanced Operations Research	
L-T-P-C: 3-0-0-6	
Type of Letter Grading (Regular Letter Grades / PP or NP Letter Grades): Regular Letter Grades	
Kind of Proposal (New Course / Revision of Existing Course): New Course	
Offered as (Compulsory / Elective): Elective	
Offered to: Doctor of Philosophy (PhD)	
Offered in (Odd/ Even / Any): Any	
Offered by (Name of Department/ Center): School of Business	
Pre-Requisite: NIL	
Preamble / Objectives (Optional):	
Course Content/ Syllabus *(as a single paragraph if it is not containing more than one subject. Sub-topics/ Sections may be separated by commas(,). Topics may be separated by Semi-Colons(;). Chapters may be separated by Full-Stop(.). While starting with broad heading, it may be indicated with Colon symbol before the topics. For example: Multi-variable Calculus: Limits of functions, Continuity)* Geometry of linear programming; basic solution and basis; revised simplex; duality; recession cone, extreme rays, polyhedral representation; local and global sensitivity, large scale LP; network models; shortest problem; successive shortest path problem; maximum flow problem, minimum cost flow problem, travelling salesman problem; Chinese postman problem; vehicle routing problem; queuing models; game theory; critical path method; Program Evaluation and Review Technique (PERT)	
Books (In case UG compulsory courses, please give it as "Text books" and "Reference books". Otherwise give it as "References".	
Texts: (Format: Authors, *Book Title in Italics font,* Volume/Series, Edition Number, Publisher, Year.)	
1.	Ahuja, R. K., Magnanti, T. L., & Orlin, J. B., *Network flows: theory, algorithms and applications,* Prentice Hall, 1995
2.	Dantzig, G. B., & Thapa, M. N., *Linear programming: Theory and extensions,* Vol. 2, New York: Springer, 2003.