

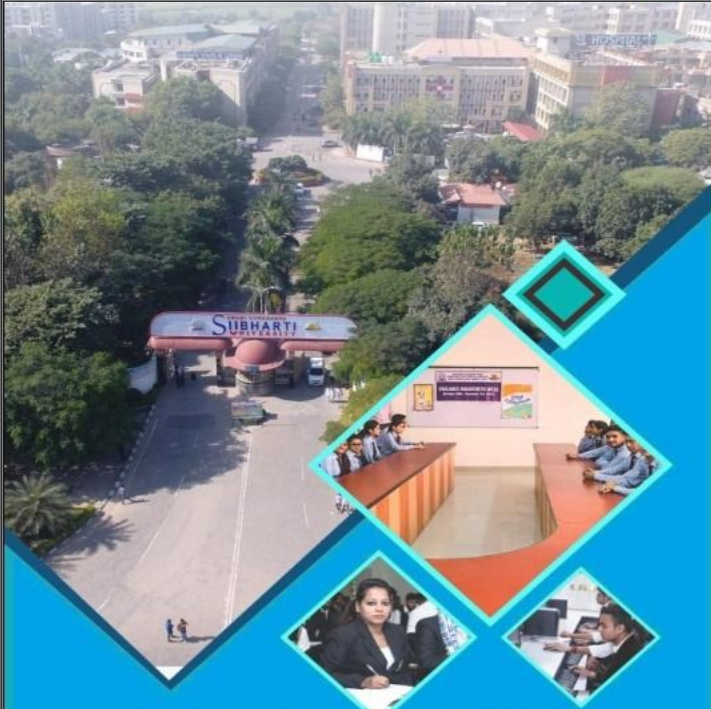
# VAC Name: Advanced Operation Research Procedures (ET-VA-03)



**SWAMI VIVEKANAND  
SUBHARTI  
UNIVERSITY**  
Meerut  
UGC Approved



Where Education is a Passion...



## Department of Management Studies

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Contact Us: Subhartipuram, NH-58, Delhi-Haridwar Bypass Road, Meerut, Delhi NCR, Uttar Pradesh, INDIA.

## Information Brochure



01

### ADMISSION OPEN

"VALUE ADDED COURSE"

(Session: 2018-19)

02

"KNOWLEDGE OF VALUE ADDED COURSE WILL IMPROVE EMPLOYABILITY OF THE STUDENTS"

03

Organised by  
Department of Management Studies

Swami Vivekanand Subharti University, Meerut (U.P.)

### About Swami Vivekanand Subharti University

Swami Vivekanand Subharti University is a University under the section 2(f) of the University Grants Commission Act, 1956, set up under the Swami Vivekanand Subharti Vishwavidyalay Uttar Pradesh Adhiniyam, 2008 (U.P. Act No. 29 of 2008) as passed by the Uttar Pradesh Legislature and assented to by the Honorable Governor of Uttar Pradesh in September 2008.

The University has been established under the aegis of Mahayana Theravada Vajrayana Bhuddist Religious and Charitable trust (formerly known as Subharti K.K.B. Charitable Trust) Meerut, which has acquired a commendable record of service in the field of Education, Religion, Health care and Social Welfare.

The main campus of the University is in the National Capital Region, strategically situated on National Highway 58, Delhi-Haridwar bypass road, Meerut, The campus aptly called 'Subhartipuram', is spread over a sprawling area of about 250 acres of land comprising of magnificent buildings, lush green lawns and vibrant surroundings with over 5000 people, determined to make this a 'Jewel in the Crown' of the nation.

The University boasts of highly qualified, dedicated and competent faculty from all walks of life, world class infrastructure, fully equipped Laboratories with latest state-of-the-art equipments and a huge library with recent knowledge resources including e-resources.

The Uniqueness of Subharti University lies in providing an environment fully conducive to the overall development of students, thus maintaining a balance between academic excellence and moral perfection.

- The University has been awarded the membership of Association of Indian Universities in 2013.
- The University has more than 32 MOUS and has won numerous national and International awards.
- The University has also started a number of courses through Distance Education, approved by Distance Education Bureau of UGC (Formerly by Joint committee of UGC-AICTE-DEC).
- The University has been accorded grade 'A' by NAAC in 2016.

### About DOMS

The unique privilege to be a constituent college of the prestigious Swami Vivekanand Subharti University. DOMS focuses on Management & Commerce Education; with the commitment of transforming leadership skill with a sound understanding of domestic and global business complexity, the approach to pedagogy combines role playing, case studies, fieldwork, live business projects and instrumented feedback with a strong emphasis on theoretical concepts. The intent is to encourage rational inquisitiveness and open minds to the explorations of ideas, research and innovation in global perspective.

Our collaborative approach involves inputs from various departments which gives the benefit of a much wider view and deeper understanding. This is indicated by the success of our alumni who are in positions of leadership in industries & governments across the world. The strong alumni network, gives students' unmatched access to information, mentors and careers. Our industry integrated management & commerce program are the most sought after programs.

DOMS rewards initiative, innovation and thinking outside the box. Our students are individuals of enormous intellectual energy with a talent for collaboration and teamwork. We are a diverse lot, possessing flair and dynamism that develops in NCR, and thrives on challenges both inside and outside the classroom.

Corporate recruiters value our graduates for their intellectual abilities, their collaborative mind-set, their individuality and their ability to hit the ground running.

### What is a Value Added Course?

Employment scene today requires that a student wanting a job be an all-rounder, with several skills. Pursuing multiple long-winding degree programs is no answer to this. Rather than spending a lifetime seeking higher cations, Value Added Courses give you the chance to update your skill set in only a fraction of the time and money. But, the value they create is very high.

### Why should I do a Value Added Course?

Value added courses are the fine way to fill the gaps in your knowledge and add competitive edge to your job prospects. As systems, programs and practices change, making it critical for job-seekers to have a range of competencies, Value Added Courses can help you to be a winner. Starting off with a Value Added Course helps you to have a foundation on which to build your career. Many these courses may lead you on to your own enterprise or to further qualification, if needed.

### Who can take admission to a Value Added Course?

There are two types of courses being offered – General Interest Courses that are open to all and Subject specific Courses. You can pursue these courses as per your requirement. Apart from the Subharti University students, even others – students from anywhere, working men and women, or the self-employed – can register for these courses.

### How many courses can I do?

As the basic idea is to make ample opportunities available to students, there are no restrictions on how many courses a student can offer. Many of these courses are offered more than once a year and thus one can acquire several certifications during the period of a degree program.

### Will I get a Job because of Value Added Courses?

The purpose of the Value Added Courses is to make you industry-ready. Providing the finishing touches to the knowledge you gain in your degree program, Value Added Courses will polish your skills and enhance your employability. What is more, you may even acquire enough tricks to start your own business! The College has a Placement Cell to assist you with your placement. You can register with this Cell and receive further guidance and some assistance in seeking jobs. The Cell also facilitates On or Off campus interviews.

### How to register for a Course?

The Courses are run by many departments, including some private Educational Service Providers. Each course has a Coordinator whose names are prominently displayed in the Brochure. You may contact these coordinators in person.

### What about the Certification?

Each course has its own assessment pattern, both practical and theoretical. Successful completion of the course earns you Certification issued by the College.

Eligibility: Courses are open for all M.B.A. /B.B.A. Students.

## Schedule of Value Added Courses offered by DOMS (Session: 2018-19)

S. No.	Name of the value-added courses	Course Code	Program	Course	Year	Total No. of Hours	Course Coordinator
1	Simulation of Business Systems	ET-VA-01	PG	MBA	2018-19	30	Dr. Padma Misra
2	E-Commerce	ET-VA-02	PG/UG	MBA/BBA	2018-19	30	Dr. Gaurab Sharma
3	Advanced Operation Research Procedures	ET-VA-03	PG/UG	MBA/BBA	2018-19	30	Mr. Kavish Sharma
4	Business Letters & Report Writing	ET-VA-04	UG	BBA	2018-19	30	Ms. Rakhi Jha
5	Digital Marketing	ET-VA-05	UG	BBA	2018-19	30	Dr. Princi Gupta
6	Planning and Managing Small Businesses	ET-VA-06	UG	BBA	2018-19	30	Dr. Avansh Kr. Tyagi







## Department of Management Studies

Website: [management.subharti.org](http://management.subharti.org), e-mail: [management@subharti.org](mailto:management@subharti.org), Ph: 0121-3058039, Extn-2841, Telefax: 0121-3058030, 2439067

## SWAMI VIVEKANAND SUBHARTI UNIVERSITY

(Established under U.P. Govt. Act no. 29 of 2008 and approved under section 2(f) of UGC Act 1956)



### COURSE CONTENTS

#### Advanced Operation Research Procedures

Course Code: ET-VA-03

Session: 2018-19

Time duration: 30 Hr.

#### UNIT I:

Introduction to Operations Research: Basics definition, scope, objectives, phases, models and limitations of Operations Research. Linear Programming Problem – Formulation of LPP, Graphical solution of LPP. Simplex Method, Artificial variables, big-M method, two-phase method, degeneracy and unbound solutions.

#### UNIT II:

Transportation Problem. Formulation, solution, unbalanced Transportation problem. Finding basic feasible solutions – Northwest corner rule, least cost method and Vogel's approximation method. Optimality test: the stepping stone method and MODI method.

#### UNIT III:

Assignment model. Formulation. Hungarian method for optimal solution. Solving unbalanced problem. Traveling salesman problem and assignment problem.

#### UNIT IV:

Sequencing models. Solution of Sequencing Problem – Processing n Jobs through 2 Machines – Processing n Jobs through 3 Machines – Processing 2 Jobs through m machines – Processing n Jobs through m Machines.

#### UNIT V:

Dynamic programming. Characteristics of dynamic programming. Dynamic programming approach for Priority Management employment smoothening, capital budgeting, Stage Coach/Shortest Path, cargo loading and Reliability problems.

#### UNIT VI:

Games Theory. Competitive games, rectangular game, saddle point, minimax (maximin) method of optimal strategies, value of the game. Solution of games with saddle points, dominance principle. Rectangular games without saddle point – mixed strategy for 2 X 2 games.

PRINCIPAL  
Acharya Vishnu Gupta  
Subharti Institute of Management & Commerce  
S.V.S.U., MEERUT



Acharya Vishnu Gupt

# Subharti Institute of Management & Commerce

Website: management.subharti.org, e-mail: management@subharti.org, Ph: 0121-3058039, Extn-2841, Telefax: 0121-3058030, 24:

A constituent college of

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### Report

18 May, 2019

### on

### Value Added Course

Session: 2018-19

Program: BBA

Date: 6-10 May, 2019

Course Name: **Advanced Operation Research**

Course Code: ET- VA- 03

No. of Students Enrolled in the Course in the year: 12

Resource Person: Kavish Sharma

#### Objective of Value Added Course:

The objective of conducting the VAC was to enhance the knowledge of the students and make them aware about competitive edge to their job prospects.

#### Outcome of Value Added Course:

Value added courses are the fine way to fill the gaps in the knowledge of students and add competitive edge to their job prospects. As systems, programs and practices change, making it critical for job-seekers to have a range of competencies, Value Added Courses helped the students to be a winner. The purpose of the Value Added Courses is to make you industry-ready and that was fulfilled very effectively. Starting off with a Value Added Course helped the students to have a foundation on which to build their career.



Faculty Signature

PRINCIPAL  
Acharya Vishnu Gupt  
Subharti Institute of Management & Commerce  
S.V.S.U., MEERUT





## Department of Management Studies

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### Department of Management Studies

### Subharti Institute of Technology and Engineering

### Attendance Record of students enrolled in Value Added Course of Odd Semester (2018-19)

Session: 2018-19

Year: I

Course: Advanced Operation Research

Course Code: ET- VA-03

No. of Students Enrolled in the Course in the year:

12

Program Date: 6-10 May,2019

Session: 2018-19

S. No.	Student's Name	Father's Name	06-05-19	07-05-19	08-05-19	09-05-19	10-05-19
1	Deepak Kumar	Sh. Rakeesh Kumar	A	p	p	p	p
2	Shakir Khan	Sh. Sherdeen Khna	p	p	p	A	A
3	Ritika Gupta	Sh. Rajeeve Kumar Gupta	p	p	p	p	p
4	Danish Husan	Sh. Aabid Husan	p	A	p	p	p
5	Mohd. Aadil	Sh. Vakeel Ahmed	p	p	p	A	p
6	Shubham Kumar	Sh. Parmod Kumar	A	p	A	p	p
7	Aishwarya Kamboj	Sh. Sanjay Kamboj	p	A	p	p	p
8	Shanu Chaudhary	Sh. Samar Pal Singh	p	p	p	p	p
9	Aman Singh	Sh. Rajendra Singh	p	p	A	A	p
10	Mohd Khalid	Sh. Aneesh Ahmad	p	A	p	p	p
11	Swati Malik	Sh. Sanjay Malik	p	p	p	p	p
12	Shivani	Sh. Brijesh Tyagi	p	p	A	A	p

Faculty Signature

HEAD  
DOMS  
Swami Vivekanand Subharti University  
MEERUT

Registrar  
Swami Vivekanand  
Subharti University  
MEERUT



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### Certificate of Participation

This is to certify that Mr./Ms. Shivani of BBA program/course of II semester has actively Participated in Value Added Course on Advance operation Research Conducted/organized by Acharya Vihnu Gupt Subharti College of Management & Commerce, Swami Vivekanand Subharti University, on 6-10 May, 2019

*Wewish success and good luck in your future Endeavour.*

VAC Course Coordinator

Mr. Kavish Sharma

AKG  
Principal, AVGSCMC



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### Certificate of Participation

This is to certify that Mr./Ms. Deepak Kumar of MBA program/course of II semester has actively Participated in Value Added Course on Advance Operation Research Conducted/organized by Acharya Vihnu Gupt Subharti College of Management & Commerce, Swami Vivekanand Subharti University, on 6-10 May, 2019

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VAC Course Coordinator

Mr. Kavish Sharma

AKG  
Principal, AVGSCMC



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Certificate of Participation

This is to certify that Mr./Ms. Mohel Adit ..... of MBA .....  
program/course of I ..... semester has actively Participated in Value Added  
Course  
on Advance Operation Research ..... Conducted/organized by  
Acharya Vihnu Gupt Subharti College of Management & Commerce, Swami  
Vivekanand Subharti University, on 6-10 May, 2019

*Wewish success and good luck in your future Endeavour.*

VAC Course Coordinator

Mr. Kavish Chama

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AKG

Principal, AVGSCMC



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Certificate of Participation

This is to certify that Mr./Ms. Ritika Gupta ..... of BBA .....  
program/course of I ..... semester has actively Participated in Value Added  
Course  
on Advance Operation Research ..... Conducted/organized by  
Acharya Vihnu Gupt Subharti College of Management & Commerce, Swami  
Vivekanand Subharti University, on 6-10 May, 2019

*Wewish success and good luck in your future Endeavour.*

VAC Course Coordinator

Mr. Kavish Sharma

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AKG

Principal, AVGSCMC



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Certificate of Participation

This is to certify that Mr./Ms Varghe of BBA program/course of III semester has actively participated in Value Added Course on Advanced operation Research Conducted/organized by Acharya VihnuGupt Subharti College of Management & Commerce, Swami Vivekanand Subharti University, on 6 to May, 2019

*We wish success and good luck in your future Endeavour.*

VAC Course Coordinator

Principal, AVGSCMC

Registrar  
Swamivivekanand  
Subharti University  
MEERUT