

ABOUT THE VELLORE INSTITUTE OF TECHNOLOGY

Vellore Institute of Technology (VIT) was founded in 1984 as Vellore Engineering College by the Chancellor Dr. G. Viswanathan. VIT attracts students from all the 29 states of India and more than 41 different countries because of its academic excellence. The Government of India recognizes VIT as an Institution of Eminence (IoE). The credentials of VIT in academics and research, have ranked VIT in 1st position among private institutions in India for Innovation (ARIIA 2019 Award) by Govt. of India. VIT has placed in 18th position among the engineering institutions in India by NIRF, Govt. of India. The world ranking body namely the QS has given 4 STAR rating to VIT, with that VIT becomes the first institution in India to have the 4 STAR rating. In addition to this, the consortium of industries, FICCI has adjudged VIT as the "Excellence in Faculty". VIT has the record of publishing maximum number of SCOPUS Indexed Research Journal papers in 2019, among Indian Universities and also overtaking all the premier institutions. VIT has also completed 3 cycles of NAAC accreditation and has been rated as "A" grade institution. In addition, VIT also has obtained for the coveted ABET accreditation by US agency. VIT has introduced many innovations in academic processes which add value to every student. FFCS (Fully Flexible Credit System), PBL (Project Based Learning) for better learning, fully digitized academic portals that assist students in equipping themselves for 2020 market place. Hack-a-thon, Make-a-thon as part of curriculum exercise which kindles the interest and the curiosity of students, which motivates them to be better problem solvers, last module in every subject being handled by the industrial experts, making the students contextualize the concepts they study in the classroom, are a few of the innovations that VIT has introduced.

ABOUT THE SCHOOL OF ADVANCED SCIENCES

The School of Advanced Sciences (SAS), VIT consists of Mathematics, Physics and Chemistry Departments. The school offers M.Sc., M.Phil. and Ph.D. programmes in all these disciplines. The School comprises qualified and research oriented faculty members whose expertise are in the frontier areas in sciences. Faculty members of SAS have received national and international recognized funded projects to the tune of 10 crores ongoing projects in SAS. Several research projects of the school are financially supported by some of the leading funding agencies such as NBHM, UGC, CSIR, DRDO, DST, DBT and Others. In addition, they have published international research papers and filed patents. The curriculum keeps abreast of the latest advancements in the respective domains and endeavours to mould the students into job seekers. The students are placed in reputed companies in India and overseas.

ABOUT THE DEPARTMENT OF MATHEMATICS

Mathematics is an essential component of all engineering disciplines. The Mathematics department has 110 faculty members

who support the other engineering departments through teaching and also actively involved in academic research in different areas such as Algebra, Analysis, Complex Analysis, Differential Equations, Fluid Dynamics, Graph Theory, Operations Research, Inventory Systems, Queuing Theory, Coding Theory, Mathematical Modelling, Fuzzy Mathematics, Numerical Analysis, Mathematical Biology and Others. The department has organized various programmes continuously like international conferences, symposia, seminars, workshops, Mathematical Meets, Math Fests, Technical Events, IDEA-THONS, Math-A-Thons, Stat-A-Thons and many lecture series.

ABOUT THE EVENT

Stat-A-Thon is a statistical event virtually conducted by the Department of Mathematics, School of Advanced Sciences, VIT, Vellore. The students of VIT from various branches are encouraged to participate in this event. This event is brainstorming, which uncovers various statistical methods, models and their implementation. Participants are encouraged to learn Statistics in a more pragmatic way which is out of box. This event runs for three days comprising of three rounds. ***It is a team event, each team with four students only.***

Round-I is an online quiz which comprises of MCQs on basic Statistics and Probability Theory. The selection of teams for Round-II is based on their scores of Round-I. In Round-II, students have to develop a statistical methodology / statistical model in the topic "***Statistical Mechanisms for Analyzing Coronavirus Disease (COVID-19)***" and present the same in front of Panel Members. The competing teams will be selected for Round-III based on the presentation in Round-II. Students will be given time of at least 12 hours to prepare for Round-III. In Round-III, the teams have to implement the proposed model and present the results in front of the Panel Members. Three teams will be selected as winners from Round-III. The e-certificate will be given to all the participants as per their performance, which may be considered for Additional Learning Component of the statistical related courses.

CONTACT DETAILS

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Website: <https://vit.ac.in/school-advanced-sciences-sas/stat-thon-ws-2020>

Payment: <https://events.vit.ac.in/>

Registration: <http://tiny.cc/stat-a-thon-ws-2020>



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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

STAT-A-THON-WS-2020

(A Virtual Statistical Challenge)

WINTER SEMESTER - 2019~2020

05th - 07th June 2020



Organized by

**DEPARTMENT OF MATHEMATICS
SCHOOL OF ADVANCED SCIENCES
VELLORE INSTITUTE OF TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**VELLORE - 632014
TAMIL NADU, INDIA**



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Department of Mathematics, SAS, VIT

Organizing Team Members

Faculty Members,

Staff Members and

Research Scholars

Department of Mathematics, SAS, VIT

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IMPORTANT DATES

Last Date for Registration : **31st May 2020**

Registration Confirmation : **01st June 2020**

Programme Dates : **05th – 07th June 2020**

REGISTRATION DETAILS

Interested team of students are requested to pay the registration fee through the payment web link as mentioned below and then please register their details through the following registration web link on or before **31st May 2020**.

For Payment: <https://events.vit.ac.in/>

For Registration: <http://tiny.cc/stat-a-thon-ws-2020>

REGISTRATION FEE DETAILS

Registration Fee per Team = Rs. 600/- + 18% GST

(4 Members per Team × Rs. 150/- = Rs. 600/-)

INSTRUCTIONS

The team leader of each team is responsible for all communications to all the team members. It is a team event, each team with four students only.

Round-I (Virtual Mode):

Team Wise Online Quiz Examination.

50 Questions for 30 Minutes.

Refer Annexure-I for Syllabus of Round-I.

Problem Statement for Rounds – II & III :

Statistical Mechanisms for Analyzing Coronavirus Disease (COVID-19)

Round-II (Virtual Mode):

Team Wise Presentation for 10 (7+3) Minutes.

Round-III (Virtual Mode):

Team Wise Presentation for 10 (7+3) Minutes.

DETAILS OF CERTIFICATES AND PRIZES

E-Certificate will be given to all participants as per their performance and also to merit winners.

Cash/Gift Prizes of worth Rs. 20,000/- for merit winners (first three places) will be given.



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Annexure-I

Syllabus of Round-I (Quiz Examination)

1. Introduction to Statistics

Introduction to Statistics and Data Analysis – Measures of Central Tendency – Measures of Variability – Moments – Skewness – Kurtosis.

2. Introduction to Probability

Introduction to Probability – Random Experiments – Sample Space – Events – Mathematical, Statistical and Axiomatic Definitions of Probability – Conditional Probability – Mutual Exclusive Events – Independent Events – Addition and Product Theorems on Probability – Theorem of Total Probability – Baye's Theorem / Theorem of Probability of Causes – Bernoulli's Trials.

3. Random Variables

Random Variables – One Dimensional Discrete and Continuous Random Variables – Probability Mass Function – Probability Density Function – Distribution Function – Two Dimensional Discrete and Continuous Random Variables – Joint Probability Mass and Density Functions – Joint Probability Distribution Functions – Marginal and Conditional Probability Distributions – Mathematical Expectation and its Properties – Covariance – Moment Generating Function – Characteristic Function.

4. Correlation and Regression

Correlation – Rank Correlation – Regression – Partial and Multiple Correlation – Multiple Regression.

5. Special Probability Distributions

Binomial Distribution – Poisson Distribution – Normal Distribution – Gamma Distribution – Exponential Distribution – Weibull Distribution.
