



# Bharath

**INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

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

(Vide Notification No. F.9-5/2000 - U.3, Ministry of Human Resource Development, Govt. of India, dated 4<sup>th</sup> July 2002)

**DEPARTMENT OF AERONAUTICAL ENGINEERING**

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Chennai - 600 073, Tamil Nadu.




**Dr. M.Sundararaj** M.E., Ph.D  
Head

04/12/2018

F.No.Aero/Events-1.1/Value Added Course/2018

## CIRCULAR

Department of Aeronautical Engineering is organising a Value Added Course on 'Introduction to CFD' to be delivered by the eminent Industry expert and speaker, Dr. Siva , Managing Director, Big Bang Boom Solutions Private Limited on **05/12/2018** for the students of B.Tech (Aeronautical & Aerospace Engineering). All the students are hereby instructed to be available for the said course.

  
HOD-Aero





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## Department of Aeronautical Engineering

Value Added Course

Introduction to CFD

### Objective :

It is concerned with application of numerical methods for solving conservation equations of fluid dynamics. The subject will be taught with the objective of motivating students to develop their own computer codes.

Course Co-ordinator: Mr.R.Karthikeyan

COURSE LAYOUT

SNO	Date	Course Content	Duration	Instructor
1	05/12/2018(FN)	Governing conservations equations of fluid flow and classification of system of partial differential equations (PDEs)	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
2	05/12/2018(AN)	Methods for approximate solution of PDEs: brief overview of finite difference, finite volume and finite element approaches	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions
3	08/12/2018(FN)	Taylor table approach for constructing finite difference schemes of arbitrary orders of accuracy, implementation of schemes near boundaries	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
4	08/12/2018(AN)	Numerical solution of steady state heat conduction (Elliptic PDE) using various explicit and implicit schemes, implementation of boundary conditions, mesh dependence and convergence of solution	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
5	09/12/2018(FN)	Numerical solution of unsteady heat conduction (Parabolic PDE) using various schemes, implementing initial and boundary conditions, stability analysis, multi-dimensional implementation	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
6	09/12/2018(AN)	Numerical solution of linear wave equation (Hyperbolic PDE) using various schemes, artificial viscosity, diffusion and dispersion error, stability analysis	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited





7	15/12/2018(FN)	Numerical solution of one dimensional convection-diffusion equation	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
8	15/12/2018(AN)	Numerical solution of two dimensional incompressible Navier Stokes equations	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
9	16/12/2018(FN)	Basics of interface capturing methods for application in multiphase flow	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited
10	16/12/2018(AN)	Basics of turbulence modeling	3 Hours	Dr.Siva , Managing Director, Big Bang Boom Solutions private limited

#### BOOKS AND REFERENCES

1	Computational Fluid Dynamics, K. A. Hoffmann and S. T. Chiang, Engineering Education
2	Numerical Computation of Internal and External Flows: The Fundamentals of Computational
3	A First Course in Aerodynamics: A. Roy, Ventus Publishing, Denmark, 2012







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Department of Aeronautical Engineering

## Certificate of Participation

This acknowledges that

SURJITH S  
U17AE036

Has undertaken 30 hours course on "INTRODUCTION TO CFD" Organized by  
DEPARTMENT OF AERONAUTICAL ENGINEERING, BIHER FROM 05.12.2018 TO  
16.12.2018.

R.KARTHIKEYAN, PROGRAM  
COORDINATOR

HOD/AERO



# Participant Feedback Form

(On course completion)

Date .....16/12/2018.....

Course .....CFD.....

Student Name (optional) .....JULI GUPTA.....

Student ID (optional) .....U15.AE.022.....

**a) Helpful and knowledgeable staff:**

Very satisfied       Satisfied       Somewhat satisfied       Not satisfied

**b) Staff friendliness:**

Very satisfied       Satisfied       Somewhat satisfied       Not satisfied

**c) Ease of registration:**

Very satisfied       Satisfied       Somewhat satisfied       Not satisfied

**2. Is there anything we can improve with our registration process?**

.....

## B. The Training Facility

**3. How satisfied were you with the training facility on the follow**

**a) Cleanliness of facility:**

Very satisfied       Satisfied       Somewhat satisfied       Not satisfied

**b) Comfort of training room:**

Very satisfied       Satisfied       Somewhat satisfied       Not satisfied

**4. Is there anything we can improve with any of the above?**

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**Department of Aeronautical Engineering**

**Value Added Course**

**Course on Introduction to CFD**

**List of students Registered on 05/12/2018**

SNO	Reg NO	Name of the Student
1	U15AE016	GADDAM MADHUSUDHAN REDDY
2	U15AE017	GANDLA SAI KEERTHANA
3	U15AE018	I VASUDEVA REDDY
4	U15AE019	ISHANT DUBEY
5	U15AE020	KARRI ASHOK KUMAR REDDY
6	U15AE021	KARTHIKEYAN R
7	U15AE022	JUHI GUPTA
8	U15AE023	KOLA JOHN HANNA JAYASREE
9	U15AE024	KUSUNURI JYOTHI SAI PAVAN
10	U15AE025	MD ALAM
11	U15AE026	MD MUDEER ALAM
12	U15AE027	MERLIN TERESA P
13	U15AE028	MOPOORI BHARATH KUMAR
14	U15AE029	BIJOY PAUL
15	U15AE030	NINGKHANRIN N G
16	U15AE031	PARASA MAHENDRA
17	U15AE032	PAVULURI MOHITH CHOWDARY
18	U15AE033	PERCIYAL A
19	U15AE034	PULUSU PARDHU SREE
20	U15AE035	RAVILLA VISHNU VARDHAN NAIDU
21	U16AS008	GONDAL PRANAY GOPAL
22	U16AS009	PUNITHAN A
23	U16AS010	ASHLIN KUMAR
24	U16AS501	KURAL ARASU L
25	U16AS502	DONTHA ADITYA
26	U16AE016	KAVIBHARATHI T
27	U16AE017	HARIHARAN K
28	U16AE018	K S GANESH
29	U16AE019	PUNITHAN A
30	U16AE020	JANARTHANAN K
31	U16AE021	MANDALA HARI
32	U16AE022	VIGNESH A
33	U16AE023	NATARAJAN T M
34	U16AE024	SANTHOSH KUMAR SAHU
35	U16AE025	VAGGALA MAMATHA SRI
36	U16AE026	KESAVARAJU K V
37	U16AE027	GOLLA GOPAL





38	U16AE028	MUHUNTHANI B
39	U16AE029	GUDIPATI SIVAKUMAR
40	U16AE030	MONIKA VEMAGIRI
41	U16AE031	D VINOD RAO
42	U16AE032	ARUN R
43	U16AE033	DEKKA SAI VENKATA SURYA AJAY KUMAR
44	U16AE034	SHAKEEL AKTHAR M
45	U16AE035	ADAPALA ANIL KUMAR
46	U17AE023	ATHOTA SURESH
47	U17AE024	PAVITHRA D
48	U17AE025	YERAMAPU SNEHITHA
49	U17AE026	DUPPADA GURU SANKAR
50	U17AE027	KAMIREDDY DURGA SAI RAJYALAKSHMI
51	U17AE028	SHAIK JAFFER SADIQ
52	U17AE029	ARAVINDAN S
53	U17AE030	KANDALA RAVI TEJA
54	U17AE031	GUTTI VINAY KUMAR
55	U17AE032	MARELLA NIKHIL REDDY
56	U17AE033	PATAN KARIMULLA BABA
57	U17AE034	SINGULURI BHARADWAJ SATYANARAYANA
58	U17AE035	NALAMASU NIKHIL
59	U17AE036	SURJITH S
60	U17AE037	THOLICHURU DILEEPKUMAR
61	U17AE038	MOHAN KRISHNA CHESETTI
62	U17AE039	MUKESH PRAJAPATI
63	U17AE040	KARRI SANTHOSHI
64	U17AE041	HAZEEP VIJAYENDRA SRINIVAS
65	U17AE042	K SREERAMA SUBRAMANYA CHARAN
66	U17AE043	BANDARU CHANDRA MOULI
67	U17AE044	ADURI NAGA SAIKIRANMAI
68	U17AE045	CHINTALA LAKSHMI NARAYANA
69	U17AE046	NALLAMSETTI PAVAN KUMAR
70	U17AE047	THIRUMALASETTI DURGA APARNA
71	U17AE048	BOGAPARAPU PRAVALLIKA
72	U17AE049	DHOPADE SAMATHA
73	U17AE050	POTNURU HARI CHANDANA
74	U17AS008	JAYAPRAKASH CHANDRAN G S
75	U17AS009	GUTTULA KIRAN

