Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Ref: BIHER/BIST/Civil//Spl/2022 **Date: 05/04/2022**

CIRCULAR

Many a times, the defined skill sets that are being imparted to students today with Programme Specific Objectives in educational institutions become redundant sooner than later due to rapid technological advancements. It is important for higher education institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes.

Hence a Value Added Course is offered by Department of School of Civil and Infrastructure Engineering, Bharath Institute of Higher Education & Research. The course offered is **Analysis and Design of bridges using MIDAS Civil** with the duration of 30 hours (Two hour per day) and commences from **15/04/2022 to 19/05/2022**.

Eligibility: Course is open for UG Students for Department School of Civil and Infrastructure Engineering.

Registration:

The registration form which is available in the university website should be duly filled by the participants and to be submitted to the Coordinator at least 5 days before the commencement of course.

Contact:

Ms.K.Anitha
Assistant Professor / School of Civil and Infrastructure Engineering.,
Course Coordinator
Bharath Institute of Higher Education & Research.
Email id: anitha.civil@bharathuniv.ac.in

HOD

Head of the Department
Department of Civil Engineering
Bharath Institute of Higher Education & Research
(Declared as Deemed to be University U/S 3 of UGC Act, 1956)
Selaiyur, Chennai-600 073. INDIA

SCHOOL OF CIVIL & INFRASTRUCTURE ENGINEERING

VALUE ADDED COURSE –

Analysis and Design of Bridges Using MIDAS Civil

STUDENTS NAME LIST

Sl.NO	Reg No	Name of the students	E-Mail ID
1	U14CE001	ABHIJEET KUMAR SINGH	singhbhije21kumar@gmail.com
2	U14CE002	ABISHEK RAJ.B	abishekraj364@gmail.com
3	U14CE003	ADHULAPURI. SAI .NIVEDHITHA	nivedhitha1615@gmail.com
4	U14CE004	ADIL ABASS LONE	aadilabassi@gmail.com
5	U14CE005	AJAN .A	ajanalby10@gmail.com
6	U14CE006	AJAS AHAMED .N	ajasahamed932@gmail.com
7	U14CE007	AJITHKUMAR. L	skpl.ajith@gmail.com
8	U14CE008	AJITH KUMAR.R	ajith7401258905@gmail.com
9	U14CE009	AJITH KUMARAPPAN .K	ajithkrish9092@gmail.com
10	U14CE010	AKEPATI DEEPA	deepareddy1067@gmail.com
11	U14CE011	ALAGURAJA. CH	chellaiahalaguraja18@gmail.com
12	U14CE012	ALTHAF .S	althafking1996@icloud.com
13	U14CE013	AMAN MISRA	amanm543@gmail.com
14	U14CE015	ANKIT BOSE	ankit007bose@gamil.com
15	U14CE018	GUNDAVARAPU ARAVIND	gundavarapuaravind123@gmail.com
16	U14CE019	ARISH .S	arish_student@ymail.com
17	U14CE020	ARUMUGA RAM KUMAR.P	ram71771@gmail.com
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20	U14CE023	ASHISH KUMAR	asishsinghu14@gmail.com
21	U14CE024	ASHMIT KUMAR	ashmitkumar074@gmail.com
22	U14CE025	ASHWIN .M	ashwinash45758@gmail.com
23	U14CE026	ASWINN KUMAR.S	aswinnleo@gmail.com
24	U14CE027	AVINASH KUMAR	avinash.kbu97@gmail.com

Sl.NO	Reg No	Name of the students	E-Mail ID
25	U14CE028	AVINASH. A. M.	avinashmainm@gmail.com
26	U14CE029	BABBURI MANIKANTA KUMAR	babburimanikanta@gmail.com
27	U14CE030	BALA GURU.N	hezronbala@gmail.com
28	U14CE031	BAMMIDI DHILEEP	dhileepbammidi@gmail.com
29	U14CE032	BANOTH KALYAN KUMAR	banothkalyan16@gmail.com
30	U14CE033	BHARATH BALAJI.P	bharath.balaji595@gmail.com

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Value Added Course

Analysis and Design of Bridges Using MIDAS Civil

S.No.	Syllabus Details	No. of Lecture hrs	Time	Date	Lecture name
1	History of bridge-building	1	03.00 pm to 04.00 pm	15.04.22	Ms.K.Anitha
2	types of bridges	1	03.00 pm to 04.00 pm	17.04. 22	Ms.K.Anitha
3	Materials for modern bridges	1	03.00 pm to 04.00 pm	18.04.22	Ms.K.Anitha
4	Loads on bridges	1	03.00 pm to 04.00 pm	19.04.22	Ms.K.Anitha
5	standard truck and lane loading	1	03.00 pm to 04.00 pm	20.04.22	Ms.K.Anitha
6	Impact loads	1	03.00 pm to 04.00 pm	21.04.22	Ms.K.Anitha
7	Longitudinal and centrifugal forces; Wind and seismic loads	1	03.00 pm to 04.00 pm	22.04.22	Ms.K.Anitha
8	Thermal loads	1	03.00 pm to 04.00 pm	24.04.22	Ms.M.Hemapriya
9	Serviceability criteria	1	03.00 pm to 04.00 pm	25.04.22	Ms.M.Hemapriya
10	deflection and fatigue	1	03.00 pm to 04.00 pm	26.04.22	Ms.M.Hemapriya
11	Reinforced Concrete Bridges	1	03.00 pm to 04.00 pm	27.04.22	Ms.M.Hemapriya
12	Slab bridges	1	03.00 pm to 04.00 pm	28.04.22	Ms.M.Hemapriya
13	longitudinally reinforced bridges	1	03.00 pm to 04.00 pm	29.04.22	Ms.M.Hemapriya
14	Concrete Slab-Steel Stringer Bridge Design	1	03.00 pm to 04.00 pm	01.05.22	Ms.M.Hemapriya
15	Non-composite vs Composite Design	1	03.00 pm to 04.00 pm	02.05.22	Ms.M.Hemapriya
16	T-Beam. Design Aids	1	03.00 pm to 04.00 pm	03.05.22	Ms.M.Hemapriya
17	Plate Girder Bridges	1	03.00 pm to 04.00 pm	04.05.22	Ms.M.Hemapriya
18	Prestressed Concrete Bridges	1	03.00 pm to 04.00 pm	05.05.22	Ms.M.Hemapriya

19	Box girder bridges	1	03.00 pm to 04.00 pm	06.05.22	Ms.M.Hemapriya
20	Optimum Bridge Proportioning	1	03.00 pm to 04.00 pm	08.05.22	Ms.K.Anitha
21	Bridge Aesthetics	1	03.00 pm to 04.00 pm	09.05.22	Ms.K.Anitha
22	Inspection, Rehabilitation	1	03.00 pm to 04.00 pm	10.05. 22	Ms.K.Anitha
23	Design methodologies,	1	03.00 pm to 04.00 pm	11.05.22	Ms.K.Anitha
24	Choices of superstructure types: Orthotropic plate theory, load distribution techniques. Grillage analysis	1	03.00 pm to 04.00 pm	12.05.22	Ms.K.Anitha
25	Transverse Analysis of Bridge: Slab bridge and voided slab bridge. Beam-Slab bridge: Box Girder Bridge.	1	03.00 pm to 04.00 pm	13.05.22	Ms.K.Anitha
26	Slab bridge, Box Girder Bridge.	1	03.00 pm to 04.00 pm	15.05.22	Ms.K.Anitha
27	Beam-Slab bridge: Box Girder Bridge.	1	03.00 pm to 04.00 pm	16.05.22	Ms.K.Anitha
28	Temperature analysis, Distortional analysis	1	03.00 pm to 04.00 pm	17.05.22	Ms.K.Anitha
29	Design of bearings and joints. Parapets and Railings for Highway Bridges:	1	03.00 pm to 04.00 pm	18.05.22	Ms.K.Anitha
30	Classification of Highway Bridge parapets, Various Details. Bridge Type: Suspension bridges and cable stayed bridges.	1	03.00 pm to 04.00 pm	19.05.22	Ms.K.Anitha

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Topic: **Analysis and Design of Bridges Using MIDAS Civil**

Type of Course: value added course / UG

School of Civil and infrastructure Engineering

Pre-Requisites: Design of Reinforced Concrete Structures

Course Duration: 30 hours (15 Apr' 22)

Intended Audience: Civil Engineering Students

Industries Applicable To: All companies that deal with the civil infrastructure development

Coordinator: Ms.K.Anitha & Ms.M.Hemapriya

Objective:

a) Identify bridge types and bridge components.
b) Perform preliminary bridge design; including determining the bridge width, elevation, length, abutment and pier locations, type of superstructure and substructure and approximate construction cost.
c) Design a reinforced concrete deck.
d) Design a pre-tensioned reinforced concrete bridge girder. Design a steel girder acting compositely with the slab.

COURSE OUTLINE:

Introduction to history of bridge-building, including types of bridges, aesthetics, and materials for modern bridges; Loadings on bridges including standard truck and lane loading, impact loads, longitudinal and centrifugal forces, wind and seismic loads, thermal loads; Serviceability criteria including deflection and fatigue; Design of reinforced concrete bridges, slab bridges, concrete slab with steel stringer bridges, T-beam or plate girder bridges, box girder bridges, and prestressed concrete bridges; Bridge maintenance including inspection and rehabilitation.

Standard Loading for Bridge Design as per different codes: Road Bridges: Study of IRC, BS code, AASHTO code on Dead load, Live load, Impact factor, Centrifugal force, Wind loads, Hydraulic forces, Longitudinal forces, Seismic forces, Earth pressure. Buoyancy force. Lane concept, equivalent loads, traffic load. Width of Roadway and Footway. Influence lines for statically determinate structures, I.L. for statically indeterminate structures. Transverse distribution of Live loads among deck longitudinals. Load combinations for different working state and limit state designs. Railway Bridges: Loadings for Railway Bridges, Railroad data. Pre-design considerations, Railroad vs. Highway bridges. Superstructures: Selection of main bridge parameters,

Design methodologies, Choices of superstructure types: Orthotropic plate theory, load distribution techniques. Grillage analysis: Finite element analysis(Preferable), Different types of superstructure (RCC and PSC), Longitudinal Analysis of Bridge. Slab bridge and voided slab bridge, Beam-Slab bridge, Box Girder Bridge. Transverse Analysis of Bridge: Slab bridge and voided slab bridge. Beam-Slab bridge: Box Girder Bridge. Temperature analysis, Distortional analysis, Effects of differential settlement of supports. Reinforced earth structures. Slab Bridge, Slab-Girder Bridge(Straight/Skew). Box Girder Bridge (Straight/ Skew). Bearings and Deck Joints: Different types of bridge bearings and expansion joints, Design of bearings and joints. Parapets and Railings for Highway Bridges: Definitions, Classification of Highway Bridge parapets, Various Details. Bridge Type: Suspension bridges and cable stayed bridges.

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SCHOOL OF CIVIL & INFRASTRUCTURE ENGINEERING

VALUE ADDED COURSE – ANALYSIS AND DESIGN OF BRIDGES USING MIDAS CIVIL

Date: 15.04.2021 **Year/Sem: III /V**

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NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

CERTIFICATE OF PARTICIPATION

This is to Certify that ARISH . S, from Bharath Institute of Higher Education and Research, has participated in value added course on '**Analysis and Design of bridges using MIDAS Civil'** presented by **Ms.K.Anitha., Assistant Professor,** Organized by School of Civil & Infrastructure Engineering, Bharath Institute of Science & Technology, BIHER from 15.04.2022 To 19.05.2022.

Coordinator

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VALUE ADDED COURSE

Feedback Form

Event Name: Analysis & design of bridges using MIDAS Civil

Event Venue: Date: 20/05/2021

Name of participant: Arish.S

1. How useful did you think this event was for you?

(Please circle the appropriate number where 1 = not at all useful and 5 = extremely useful)

1	2	3	(4)	5

2. Value added course is useful and well organized.

(YES)	NO

3. Did you receive all the information you required at this Venue?

(YES)	NO

4. **Would you like to attend any further Training Courses VAC**

(YES)	NO

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