VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.

Scheme of Teaching and Examinations and Syllabus

M. Arch (Digital Heritage and Conservation)

(Effective from Academic year 2020-21)

MASTERS OF ARCHITECTURE,

M. Arch (Digital Heritage and Conservation)

CONTENTS

1. INTRODUCTION

India is a country with rich and varied Heritage belonging to different times in the timeline. Today there are about 3600 centrally protected monuments, 5000 state protected monuments and many more protected by the private organizations. There are about 37 World Heritage Sites in India, which includes 29 cultural sites, 7 natural sites and 1 mixed site. India has the sixth largest number of sites in the world.

With the advent in technology, Heritage is now no more limited to its foregrounds but can be rebuilt using technology without even being touched. This will not only boost up a lot of research approaches and programs but will also give an in-depth understanding of our past and history without tampering the already existing historic fabric. Digital practices are becoming increasingly important in the Heritage sector.

Hence, the need for Conservation professional is felt, who can also look into the technological and Digital aspect of Heritage parallel with Conservation. Currently, there are about six colleges in India, which provide the Masters in Architecture (Conservation) programmes and three colleges providing masters in Heritage management, which are majorly located in North and Central India. No institute is presently imparting Digital Heritage and Conservation in India.

K S School of Planning and Architecture wishes to introduce this unique programme, which will bring together an amalgamation of Digital Heritage and Conservation, thus making the individual capable to handle the Conservation of a Heritage site and undertake a piece of independent research in the field of Digital Heritage.

1.1 Digital Heritage

According to UNESCO, Digital Heritage is made up of computer-based materials of enduring value that should be kept for future generations. Digital Heritage emanates from different communities, industries, sectors and regions. On 17 October 2003, UNESCO adopted the Charter on the Preservation of the Digital Heritage, which explained the need of Digital Heritage in the world.
Accordingly, the Digital Heritage will become more important and widespread over time. Increasingly, individuals, organizations and communities are using Digital technologies to document and express what they value and what they want to pass on to future generations.

1.2 About the programme

This unique programme aims to engage you creatively and critically with 'Digital Heritage' as an emerging academic discipline and profession. Based on leading academic and professional research in Digital media in the Heritage sector, the programme will provide you with a deep understanding of the major theories, concepts, and issues in Heritage collections, management and Digital media design, as well as arm you with the necessary skills, techniques and practical knowledge.

The programme is suitable for those who wish to enter the Heritage sector as Digital media developers, which could include Computer Science graduates or IT professionals with an interest in Heritage and culture, who want to learn how to apply their Digital skills in the sector.

The programme is also ideal for those already working in the sector who wishes to gain a better understanding of the opportunities and challenges that Digital media present - for Heritage

collections, learning, audiences, and more. Finally, the programme is an excellent choice for those seeking to prepare for PhD studies in the area of Digital Heritage.

2. NEED OF THE PROGRAMME

The need for Conservation professionals has increased worldwide. India being a rich source of Heritage requires immediate attention to this pool of tangible and intangible Heritage, which in turn requires professionally trained enthusiasts. The programme will enable you to use information technology to capture and collect data, interpretation and management of data, experimenting with Digital media and Heritage Conservation. These technologies will help enhance the understanding of Heritage, solving the wider Heritage interpretation issues and help employ the newer Heritage tools.

The digital heritage is likely to become more important and more widespread over time. Increasingly, individuals, organizations and communities are using digital technologies to document and express what they value and what they want to pass on to future generations. New forms of expression and communication have emerged that did not exist previously. The Internet is one vast example of this phenomenon.

It is also likely that the development of tools to support greater multi-lingual and multi-script use of the Internet will lead to further rapid growth in digital heritage in parts of the world that are currently disadvantaged by the predominant use of English on the Internet.

Making sure this burgeoning digital heritage remains available is thus a global issue relevant to all countries and communities. Using computers and related tools, humans are creating and sharing digital resources – information, creative expression, ideas, and knowledge encoded for computer processing - that they value and want to share with others over time as well as across space. This is evidence of a digital heritage. It is a heritage made of many parts, sharing many common characteristics, and subject to many common threats.

This programme is ideal for graduates of architecture (B. Arch), with sound knowledge of basic software.

3. PEDAGOGY

The programme will be a combination of lectures, workshops, practical's, site works, lab work and studio works. You will also get an opportunity to work on the sites to gain valuable experiences throughout the programme work. In deliberating on what should be the focus areas for multi-disciplinary curricula, certain considerations need to be kept in mind:

- Content should have a good mix of theory and practice including the latest technological innovations in the field.
- The programme will be able to bridge the gaps between the theoretical knowledge and its implication on the site.
- Focus will be given to the Digital aspects of Conservation and preservation.
- The gap between current needs and knowledge of the faculty in the field of planning, management, and development skills needs to be identified.
- Newer technologies will be introduced to save time and monetary aspects, thus making the work easier and faster.

3.1 Programme outcome

The programme is first of its kind to be introduced in India, which will bring together the philosophies of Conservation and Digital technology together. This will enhance the knowledge systems and train the students for future. They will gain the understanding and appreciation in the field of Heritage and also analysis and visualization techniques.

4. PROGRAMME DETAILS

4.1 Programme title

Masters of Architecture (Digital Heritage and Conservation)

4.2 Eligibility

Admission to M.Arch Programme shall be open to the candidates who have passed the prescribed qualifying examination with not less than 50% of the marks in the aggregate of all the years of the degree examination.

However, in the case of candidates belonging to SC/ ST and Category I, the aggregate percentage of marks in

the qualifying examinations shall not be less than 45% Rounding off of percentage secured in qualifying examination is not permissible.

4.3 Admission Requirements

I. **For admissions under GATE (Architecture) qualification and roaster system of Government of Karnataka:** The candidates should be GATE (Architecture) qualified or should have appeared for the Entrance Examination conducted by an authority recognized by Government of Karnataka / VTU/ any other University on approval by Government of Karnataka.

II. **For admissions under Management Quota:** The candidates should be GATE (Architecture) qualified or should have appeared for the Entrance Examination conducted by an authority recognized by Government of Karnataka / VTU/ any other University on approval by Government of Karnataka. Further, there shall be an Admissions Committee for the M.Arch programme/s in each College consisting of the Principal of the College as the Chairman, Head of the concerned Department, one senior faculty of the concerned Department or Subject Experts as members. The Admissions Committee conducts the interview and selects the candidates for admissions.

III. **For admissions under Sponsored Quota:** The candidates should be GATE (Architecture) qualified or should have appeared for the Entrance examination conducted by an authority recognized by Government of Karnataka / VTU/ any other University on approval by Government of Karnataka.

4.4 Programme Prospects:

Career opportunities are diverse as follows:

- Centre and State Government Bodies
- Private Organizations,
- Consulting Companies or
- Conservation firms
- City Municipalities
- UNESCO,
- MNCs, etc
- Postgraduates may even plan to pursue research work and pursue Ph.D. in related advanced areas.

4.5 Salient features of the Programme

The programme is under four pedagogical features, based on learning parameters of every semester. The combination of these four pedagogical structures throughout the semester will develop a base and make the student understand the application of Sustainability in the practice.

MODULE	CONTENTS
Theoretical base and framework	Understanding the theories and philosophies associated with Conservation and Heritage. Understanding Digital Heritage and its applications. Traditional knowledge systems, Conservation principles, research approaches and assessment form the basics of the programme.
Technical support	Understanding the Digital part of the programme, learn various tools and techniques for documenting and interpreting Heritage. Focuses majorly on interpretation and analysis.
Management	Focuses majorly on the management and operations on the Heritage site. With theoretical base and its implementation through technical support, the students deal with the management on the site. It is a holistic and integrated approach, which will train them to handle a Heritage site.
Application	Training and internship, site work for studio projects, seminars and workshops.

4.6 Programme Guidelines (As per COA norms)

- The University shall conduct an examination at the end of each semester or academic year as per the scheme of examination.
- The sessional work, project, design, research shall be assessed with progressive marking throughout the semester. (refer M.Arch Regulations 2020-21; 20-OMA 6.1).
- Attendance requirement to be followed as per the M.Arch Regulations 2020-21; 20-OMA 5.0.

4.7 Structure of the Programme

The Programme is a full time programme and shall extend over a period of four semesters and each semester (excluding Examination, Professional training and Vacation) shall be of 16 weeks duration.

4.8 Internship

4.8.1 Internship Requirements:

All the students have to undergo mandatory internship of 8 weeks during the vacation between II and III semesters. A University examination will be conducted during III semester and the prescribed internship credit shall be counted for the same semester. Internship will be considered as a head of passing and will be considered for the award of degree. The students are required to submit periodic progress reports of the internship undertaken.

4.8.2 Internship Assessment:

CIE marks shall be awarded by a committee comprising of Dean and PG course/HoD. The CIE marks awarded for Internship, shall be based on the evaluation of Internship Report, Internship
Presentation skill and performance in Question and Answer session in the ratio 50:25:25. Those, who have not pursued /completed the internship shall be declared as fail in internship course and have to complete the same during subsequent University examinations after satisfying the internship requirements. Internship SEE (University examination) shall be as per the University norms.

4.9 Thesis Project

CIE marks shall be awarded by a committee comprising of Principal/Dean, PG Coordinator/HOD and Guide/Co-guideof the department. The CIE marks awarded for Thesis project, shall be based on the evaluation of Thesis Report, Thesis Presentation skill and performance in Question and Answer session in the ratio 50:25:25. SEE shall be at the end of IV semester. Dissertation work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the University norms.

5. PROGRAMME MANAGEMENT

5.1 Programme offered by the college

Currently, K S S A is offering B.Arch. at undergraduate level with 40 intake.

5.2 Intended Intake

As per Council of Architecture norms, the Architecture school offering B.Arch., can admit upto 20 students for Postgraduate programme as one batch.

5.3 Teacher Cadre required for the 20 intake as per COA norms

- The institution offering post-graduate programmes shall have a minimum core faculty consisting of 1 Professor, 2 Associate professor and 2 Assistant professor for each of the degree / diploma course.
- The institution offering post graduate programme shall have a faculty student ratio of 1:5.
- The institution offering post graduate programme may have a maximum of 50% of its teachers as visiting faculty.

5.4 Specified qualification

Bachelor of Architecture degree shall be eligible to the post graduate programme in M.Arch (Sustainable Humane Habitat).

5.5 Physical Infrastructure

SI	PARTICULARS	AS PER COA NORMS	INFRASTRUCTURE AT KSSA
1	**Physical Facilities:**	Floor area of 250 sqm. Per postgraduate course	Yes, available Lecture room: 2 Nos. each 63.3 sqm Studios 2 Nos: each 93.3 sqm. Faculty room: 64.8 sqm.
2	**Library**	100 books for PG course and subsequently 50 books for each PG course should be added every year	KSSA shall procure it, once approval is received.
3	**Computer center**	10 computers in first year and additional 10 computers in the second year for each course	KSSA has 33 desktops in CAD lab, 3 in library
4	**Workshops and Laboratories**	The post graduate department / institution shall have a programme of enhancement of existing workshops and laboratory facilities, if they share the facilities with under graduate course.	KSSA is equipped with Construction yard, Climatology lab, Building construction museum, Resource center, Startup hub.
5	**Exhibition and conference facilities**	The post graduate department / institution shall have exclusive or share existing facilities with under graduate department to mount exhibitions and host Seminars and conferences.	Seminar hall with area of 271.89 sqm and capacity of 120 people is available in KSSA block.

6	**Common rooms and sports facilities**	Common rooms for boys and girls shall be provided separately or which may be shared with existing under graduate course. Sports facilities, both indoors and out- door shall be provided or arranged in the vicinity of the institution.	Common room for Boys and girls is available and shared with Undergraduate course KSSA is equipped with indoor sports facility area and outdoor sports arena.

6. SCHEME

6.1 Semester I

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI													
Scheme of Teaching and Examinations - 2020-21													
M. Arch. (Digital Heritage and Conservation)													
Choice Based Credit System (CBCS) and Outcome Based Education(OBE)													
I SEMESTER													
Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination					Credits
				Lecture	Studio	Skill Development	TOTAL	Duration in hours	CIE (%)	SEE (%)		Total (%)	
				L	S	SDA				THEORY	VIVA		
1	PCC	20ADH11	DIGITAL HERITAGE AND CONSERVATION STUDIO I	5	5	5 *	10	30mins/ student	40	0	60	100	10
2	PCC	20ADH12	THEORY OF CONSERVATION I	3	0	0	3	3	40	60	0	100	3
3	PCC	20ADH13	BUILDING TOOLS AND TECHNIQUES I	1	2	2 *	3	30mins/ student	40	0	60	100	3
4	PSC	20ADH14	CULTURAL HERITAGE SYSTEMS I	3	0	0	3	3	40	60	0	100	3
5	PCC	20ADH15	STRUCTURES AND MATERIALS I	3	0	0	3	3	40	60	0	100	3
6	PEC	20ADH16X	PROFESSIONAL ELECTIVE I	1	1	1	3	0	100	0	0	100	2
7	PEC	20ADH16X	PROFESSIONAL ELECTIVE II	1	1	1	3	0	100	0	0	100	2
TOTAL							28			180	120	500	26

PCC: Professional Core Course, **PSC:** Professional Support Course, **PEC:** Professional Elective Course, **PSI:** Professional Support Internship/ Apprenticeship

Professional Elective I and II (Choose any two)

Course Code under 20ADH 16X		COURSE TITLE
A	20ADH16A	PROFESSIONAL ELECTIVE A - SOFTWARES
B	20ADH16B	PROFESSIONAL ELECTIVE B - JOURNALISM
C	20ADH16C	PROFESSIONAL ELECTIVE C - HISTORIC INTERIORS
D	20ADH16D	PROFESSIONAL ELECTIVE D - OPEN ELECTIVE

NOTE

1 Lecture Hour - 1 Credit. 2 Studio Hours - 1 Credit. 2 Workshop Hour - 1 Credit.

2. Minimum Marks for passing: Progressive Marks (CIE)- 50%, Theory Marks - 40% and Viva Marks - 50%.

3. Two electives are mandatory. Choose any other elective other than mandatory elective as an audit course from the list of electives offered. All audit courses will not have credits but will be acknowledged against your attendance.

4. Viva voce: The viva voce will be conducted for duration of minimum of 30 minutes (per student) for the courses listed under viva voce for all the semesters.

5. *SDA Hours are dedicated for the students to carry out site visits, library reading, software practice, etc. Hence they are not calculated under contact hours but credits are allocated.

6.2 Semester II

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

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M. Arch. (Digital Heritage and Conservation)

Choice Based Credit System (CBCS) and Outcome Based Education(OBE)

II SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination					Credits
				Lecture	Studio	Skill Development	TOTAL	Duration in hours	CIE (%)	SEE (%)		Total (%)	
				L	S	SDA				THEORY	VIVA		
1	PCC	20ADH21	DIGITAL HERITAGE AND CONSERVATION STUDIO II	5	5	5 *	10	30mins/ student	40	0	60	100	10
2	PCC	20ADH22	THEORY OF CONSERVATION II	3	0	0	3	3	40	60	0	100	3
3	PCC	20ADH23	BUILDING TOOLS AND TECHNIQUES II	1	2	2 *	3	30mins/ student	40	0	60	100	3
4	PSC	20ADH24	CULTURAL HERITAGE SYSTEMS II	3	0	0	3	3	40	60	0	100	3
5	PCC	20ADH25	STRUCTURES AND MATERIALS II	3	0	0	3	3	40	60	0	100	3
6	PCC	20ADH26	RESEARCH METHODOLOGY & IPR	1	1	1	3	3	40	60	0	100	2
7	PEC	20ADH27X	PROFESSIONAL ELECTIVE III	1	1	1	3	0	100	0	0	100	2
			TOTAL				**28**					**700**	**26**

PCC: Professional Core Course, **PSC:** Professional Support Course, **PEC:** Professional Elective Course, **PSI:** Professional Support Internship/ Apprenticeship

Professional Elective III (Choose any one)

Course Code under 20ADH 27X		COURSE TITLE
A	20ADH27A	PROFESSIONAL ELECTIVE A - SERVICES IN HERITAGE BUILDINGS
B	20ADH27B	PROFESSIONAL ELECTIVE B - PROJECT MANAGEMENT
C	20ADH27C	PROFESSIONAL ELECTIVE C - OPEN ELECTIVE

NOTE

1 Lecture Hour - 1 Credit. 2 Studio Hours - 1 Credit. 2 Workshop Hour - 1 Credit.

2. Minimum Marks for passing: Progressive Marks (CIE)- 50%, Theory Marks - 40% and Viva Marks - 50%.

3. Two electives are mandatory. Choose any other elective other than mandatory elective as an audit course from the list of electives offered. All audit courses will not have credits but will be acknowledged against your attendance.

4. Viva voce: The viva voce will be conducted for a duration of minimum of 30 minutes (per student) for the courses listed under viva voce for all the semesters.

5. *SDA Hours are dedicated for the students to carry out site visits, library reading, software practice, etc. Hence they are not calculated under contact hours but credits are allocated.

6. Internship Requirements: All the students have to undergo mandatory internship of 8 weeks during the vacation between II and III semesters. A University examination will be conducted during III semester and the prescribed internship credit will be counted for the same semester. Internship will be considered as a head of passing and will be considered for the award of degree. The students are required to submit periodic progress reports of the internship undertaken.

6.3 Semester III

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

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M. Arch. (Digital Heritage and Conservation)

Choice Based Credit System (CBCS) and Outcome Based Education(OBE)

III SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination					Credits
				Lecture	Studio	Skill Development Activities	TOTAL	Duration in hours	CIE (%)	SEE (%)		Total (%)	
				L	S	SDA				THEORY	VIVA		
1	PCC	20ADH31	DIGITAL HERITAGE AND CONSERVATION STUDIO III	5	5	5 *	10	30mins/ student	40	0	60	100	10
2	PCC	20ADH32	THEORY OF CONSERVATION III	3	0	0	3	3	40	60	0	100	3
3	PCC	20ADH33	URBAN TOOLS AND TECHNIQUES	1	2	2 *	3	30mins/ student	40	0	60	100	3
4	PSC	20ADH34	URBAN SYSTEMS	3	0	0	3	3	40	60	0	100	3
5	PCC	20ADH35	THESIS SEMINAR	0	2	2 *	2	3	40	60	0	100	3
6	PEC	20ADH36X	PROFESSIONAL ELECTIVE IV	1	1	1	3	0	100	0	0	100	2
7	PEC	20ADH36X	PROFESSIONAL ELECTIVE V	1	1	1	3	0	100	0	0	100	2
8	PST	20ADH37	PROFESSIONAL TRAINING / APPRENTICESHIP	..	..	..	..	30mins/ student		0	100	100	2
			TOTAL				27					700	28

PCC: Professional Core Course, **PSC:** Professional Support Course, **PEC:** Professional Elective Course, **PST:** Professional Support Training/ Apprenticeship

Professional Elective IV and V (Choose any two)

	Course Code under 20ADH 36X	COURSE TITLE
A	20ADH36A	PROFESSIONAL ELECTIVE A - HERITAGE MANAGEMENT
B	20ADH36B	PROFESSIONAL ELECTIVE B - HERITAGE IMPACT ASSESSMENT
C	20ADH36C	PROFESSIONAL ELECTIVE C - OPEN ELECTIVE

NOTE

1 Lecture Hour - 1 Credit. 2 Studio Hours - 1 Credit. 2 Workshop Hour - 1 Credit.

2. Minimum Marks for passing: Progressive Marks (CIE)- 50%, Theory Marks - 40% and Viva Marks - 50%.

3. Two electives are mandatory. Choose any other elective other than mandatory elective as an audit course from the list of electives offered. All audit courses will not have credits but will be acknowledged against your attendance.

4. Viva voce: The viva voce will be conducted for a duration of minimum of 30 minutes (per student) for the courses listed under viva voce for all the semesters.

5. *SDA Hours are dedicated for the students to carry out site visits, library reading, software practice, etc. Hence they are not calculated under contact hours but credits are allocated.

6. Internship Requirements: All the students have to undergo mandatory internship of 8 weeks during the vacation between II and III semesters. A University examination will be conducted during III semester and the prescribed internship credit will be counted for the same semester. Internship will be considered as a head of passing and will be considered for the award of degree. The students are required to submit periodic progress reports of the internship undertaken.

7. Internship Assessment: CIE marks will be awarded by a committee comprising of Dean and PG course/ HoD. The CIE marks awarded for Internship, will be based on the evaluation of Internship Report, Internship Presentation skill and performance in Question and Answer session in the ratio 50:25:25. Those, who have not pursued /completed the internship will be declared as fail in internship course and have to complete the same during subsequent University examinations after satisfying the internship requirements. Internship SEE (University examination) will be as per the University norms.

6.4 Semester IV

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examinations - 2020-21

M. Arch. (Digital Heritage and Conservation)

Choice Based Credit System (CBCS) and Outcome Based Education(OBE)

IV SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination					Credits
				Lecture	Studio	Skill Development Activities	TOTAL	Duration in hours	CIE (%)	SEE (%)		Total (%)	
				L	S	SDA				THEORY	VIVA		
1	PCC	20ADH41	THESIS PROJECT	5	8	12 *	15	30mins/ student	40	0	60	100	15
2	PCC	20ADH42	THEORY OF CONSERVATION IV	3	0	0	3	3	40	60	0	100	3
3	PEC	20ADH43X	PROFESSIONAL ELECTIVE VI	1	1	1	3	0	100	0	0	100	2
			TOTAL				**21**					**300**	**20**

PCC: Professional Core Course, **PSC:** Professional Support Course, **PEC:** Professional Elective Course, **PSI:** Professional Support Internship/ Apprenticeship

Professional Elective VII (Choose any One

Course Code under 20ADH 43X		COURSE TITLE
A	20ADH43A	PROFESSIONAL ELECTIVE A - WORLD HERITAGE STUDIES
B	20ADH43B	PROFESSIONAL ELECTIVE B - ADVANCE DIGITAL MEDIA
C	20ADH43C	PROFESSIONAL ELECTIVE C - OPEN ELECTIVE

NOTE

1 Lecture Hour - 1 Credit. 2 Studio Hours - 1 Credit. 2 Workshop Hour - 1 Credit.

2. Minimum Marks for passing: Progressive Marks (CIE)- 50%, Theory Marks - 40% and Viva Marks - 50%.

3. One electives are mandatory. Choose any other elective other than mandatory elective as an audit course from the list of electives offered. All audit courses will not have credits but will be acknowledged against your attendance.

4. Viva voce: The viva voce will be conducted for a duration of minimum of 30 minutes (per student) for the courses listed under viva voce for all the semesters.

5. *SDA Hours are dedicated for the students to carry out site visits, library reading, software practice, etc. Hence they are not calculated under contact hours but credits are allocated.

6. Thesis project: CIE marks shall be awarded by a committee comprising of Principal/Dean, PG Coordinator/HOD and Guide/Co-guideof the department. The CIE marks awarded for Thesis project, shall be based on the evaluation of Thesis Report, Thesis Presentation skill and performance in Question and Answer session in the ratio 50:25:25. SEE shall be at the end of IV semester. Dissertation work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the University norms

7. DETAILED SYLLABUS

7.1 Semester I

DIGITAL HERITAGE AND CONSERVATION STUDIO I			
Course Code	20ADH11	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	05:05:05	SEE Marks	60
Credits	10	Exam Hours	30mins/ student
Objectives			
The studio will focus majorly on the research and analysis to understand the structure and a settlement holistically through mapping, documentation both manually and digitally.			
Module-1			
Documenting and analyzing the historic building, site and settlement: Documenting and mapping the site with the help of manual and digital techniques. Analyzing the site context, precinct and site setting. Recording the site data, for clear analysis of heritage fabric in the site context.			
Module-2			
Understanding the relationship of the built heritage with its intangible heritage: A heritage site adheres and survives directly/ indirectly because of its associated intangible heritage. Thus, it becomes important to understand the intangible heritage associated with the heritage fabric. Traditions, Cultural systems, customs and rituals become the utmost factors for conservation of the heritage fabric.			
Module-3			
Identifying the historic fabric with respect to the physical and ephemeral elements: Learning and identifying the historic site with its associated elements. Understanding the site from a holistic approach. Transport, approach, site setting, natural landscapes and tangible elements like adjacent structures, will affect the site. Analysis of these parameters while evaluating the site for further proposals and interventions.			
Module-4			
Digitizing the manual documentation in terms of drawings, views, walkthroughs and research paper: Manual documentation- Site recordings, plans, sections, elevations, site sections, sketches, activity mapping, etc. Digital Documentation: Converting the above manual documentation into digital medium by using the appropriate tools/ software.			
Module-5			

Learning through the process of site analysis, site visits, workshops, expert lectures, etc. Understanding heritage conservation in connection with other disciplines of knowledge: Science & Technology, art, culture, anthropology, humanities, Philosophy, Religion, Sociology, Psychology, etc**.**
Course outcomes:
At the end of the course the student will be able to: • Students will have extensive research and analytical documentation at different scales of project both manually and digitally. • Students will have the knowledge of the tools and techniques required at different scales of project. • Students will submit a research paper based on the analysis of the documented work as part of the conclusion of the studio. The students will be working in groups initially, which will become individual tasks gradually. Individual marking for the students with more weightage on the process and progress.
VIVA pattern:
• The exam will be conducted as a panel jury exam, which will be minimum of 30 mins/ student, where the student will present the work in the form of sheets. • Discussions, presentations, and studies will cover all the topics. • The portfolio covering all the assignments will be presented for term work
Text/ Reference Books
Arguments for protected areas: Multiple benefits for Conservation and use, 2010 by Stolton, Sue, ed. And Dudley, Nigel, ed.
Architectural Tiles : Conservation and Restoration from the Medieval Period to Twentieth Century, 2005 by Durbin, Lesley
Architectural Heritage: Inventory and Documentation, Methods in Europe, Council of Europe, 1992 Proceedings, by French Ministry for education and culture.
Measurement and Recording of Historic Buildings – Donhead, 1993 by Swallow, Peter

THEORY OF CONSERVATION I			
Course Code	20ADH12	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

Theory of Conservation focuses on critical thinking regarding the various aspects of heritage conservation theories at different scales. A progressive subject continues in higher semesters with increase in the complexities of these theories. At level 1 it majorly refers to the understanding of heritage, types of heritage, and various stakeholders of heritage around the world.

Module-1

Introduction:
What do you mean by heritage, Definition of heritage, need to conserve heritage, different types of heritage- tangible and intangible heritage.

Module-2

Understanding Heritage: Oral histories, folk arts, traditions, practices, etc. as a part of intangible heritage. Need of intangible heritage for continuity in heritage. The concept of preservation and continuity of heritage.

Module-3

Context of the precinct:
Studying morphology of a culturally driven city or town, evolution of the heritage fabric in the city, etc.

Module-4

Impact assessment:
Impact of heritage on the society, local communities and people- socially, economically and financially.

Module-5

Dialogues in Conservation:
Incorporating expertise in the allied fields of heritage conservation with expert lectures/ workshops/ movie screenings, etc.

Course outcomes:

- Weekly discussions on developing critical thinking towards heritage and its conservation (Mostly in reference to the studio project)
- Students will engage in debates, dialogues with multi-disciplinary objective and experts coming from all the allied fields of conservation.

The marking will be progressive, concluding with a seminar presentation.

Question paper pattern:

• The question paper will have ten questions. • Each full question is for 20 marks. • There will be 2 full questions (with a maximum of four sub questions in one full question) from each module. • Each full question with sub questions will cover the contents under a module. • Students will have to answer 5 full questions, selecting one full question from each module
Text/ Reference Books
Heritage Studies: Methods and Approaches by Marie Louise Stig Sorensen, John Carman
Order of things: An Archaeology of the Human Sciences, 1994 by Foucault, Michel
Traditional Building: A global survey of structural forms and cultural functions Noble by Allen G.
Craft techniques for Traditional Buildings, Batsford, 1991 by Wright

BUILDING TOOLS AND TECHNIQUES I			
Course Code	20ADH13	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	01:02:02	SEE Marks	60
Credits	03	Exam Hours	30mins/ student

Objectives

Introducing digital tools such as photogrammetry, Laser scanners, GIS etc. to understand recording and documenting techniques used in the survey and scanning of the historic buildings with the use of technology.

Module-1

An introduction to Building tools and techniques in conservation.
Introduction, basic theory, application, uses and types.

Module-2

Application: Understanding the use of 2D & 3D scanning devices in documenting the historic buildings.
To study optical survey equipment's and their software.
Understanding a range of recording methods used to document and further process the data from the historic buildings.

Module-3

Training: Train students on site in the basic techniques of hand, instrument and photographic survey of the historic building.
Train students in the lab for the basic techniques of processing/ plotting historic buildings survey with use of 2D and 3D software.

Module-4

Geographical Information Systems (GIS)
Understanding the theory and basics of GIS to Heritage sites, precincts etc.

Course outcomes:

At the end of the course the student will be able to:

- Surveying a Heritage precinct by application of survey techniques.
- Students will visit and document a Heritage site in all aspects.
- The marking will be progressive with reports, drawings and presentations expected at various stages.
- Students will understand the need of using GIS in various stages of analysing the Heritage site.

VIVA pattern:

• The exam will be conducted as a panel jury exam which will be minimum of 30mins/ student, where the student will present the work in the form of sheets. • Discussions, presentations, and studies will cover all the topics. • The portfolio covering all the assignments will be presented for term work.
Text/ Reference Books
Digital Heritage: Applying Digital Imaging to Cultural Heritage, 2006 by MacDonald, Lindsay,ed.
Digital Applications for Cultural and Heritage Institutions (Ashgate) by James Hemsle, Vito Cappellini, Gerd Stanke
Analyzing Complex Survey Data by Eun Sul Lee and Ronald N. Forthofer
Geographic Information Analysis by David O'Sullivan and David J. Unwin
Making Maps: a Visual Guide to Map Design for GIS by John Krygier and Denis Wood

CULTURAL HERITAGE SYSTEMS I			
Course Code	20ADH14	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

Cultural heritage system I is an allied subject to develop a holistic understanding of the different components of culture like humanities, economy, sociology, archaeology, art and craft etc. A progressive subject continues in higher semesters with increase in the complexities of these components of culture.

Module-1

Introduction:
What do you mean by culture?, Concept of culture and its components. Understanding the relations of these components with each other.

Module-2

Components of Culture: Humanities, economy, sociology, archaeology, art and craft , etc as components of culture.

Module-3

Response of culture
How does culture respond to development, examples of changes, advancements and modernism affecting culture and its components?
Understanding relationship between culture and globalization.

Module-4

Inter-cultural and cross-cultural communication
Etic and Emic approaches to cultural research, various approaches of research.

Module-5

Culture as an intangible heritage
Various examples in Indian and international context, culture as imbibed in heritage, relationship between culture as intangible to the tangible.

Course outcomes:

- Students will work with various assignments on learning Cultural Heritage associated with people, place and time. (Mostly in reference to their studio project)
- Students will document the tangible and intangible cultural Heritage aspects, which will act as a tool for applying for various proposals.

The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

• The question paper will have ten questions. • Each full question is for 20 marks. • There will be 2 full questions (with a maximum of four sub questions in one full question) from each module. • Each full question with sub questions will cover the contents under a module. • Students will have to answer 5 full questions, selecting one full question from each module
Text/ Reference Books
Art & Cultural Heritage- Law policy & practice- edited by Barbara T Hoffman.
Culture, Heritage & tourism- An introduction by Dallen Timothy
Conservation of Cultural Landscapes, 2006 by Agnoletti, Mauro, ed.

STRUCTURES AND MATERIALS I			
Course Code	20ADH15	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

The objective is to understand the historic building materials, its structure and their behavior. To understand building materials used in the heritage structures and their significance. It also highlights the structural systems of the historic structures based on their location, form and function.

Module-1

Introduction:

Learning about the different building materials like Earth, Stone, wood, mortars, Lime, Metals, Glass, Concrete, etc., their types and use in heritage structures.

Introduction to building materials: location, formation, physical and chemical properties and sourcing of building materials.

Module-2

Characterization of materials and compatibility of its usage

Overview of structural systems in a heritage fabric, its behavior and structure as a whole.

Module-3

Understanding historic construction in prehistoric and archaeological sites in India.

Module-4

Identifying materials in a historic fabric and recording these systems in building documentation / material palette, Study of historic constructions as found in archaeological sites, identification of building materials, its use and conservation process

Module-5

Diagnosis and assessment of defects in building materials by atmospheric elements, Decay mechanism of materials and its remedial measures. , Strengthening of building materials

Course outcomes:

- Documentation and study of the monument/s with respect to the topics of Heritage, History & Identity.
- Students will acquire knowledge of history of structures and materials, how they have applied to building systems
- Site observation and application in assessment of materials and develop measures for conservation.

The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

• The question paper will have ten questions. • Each full question is for 20 marks. • There will be 2 full questions (with a maximum of four sub questions in one full question) from each module. • Each full question with sub questions will cover the contents under a module. • Students will have to answer 5 full questions, selecting one full question from each module
Text/ Reference Books
Material and Skills for Historic building by Michael Forsyth
Practical Building Conservation: Conservation Basics, 2013 by English Heritage (Historic England) Routledge; 1st edition (24 April 2013)
Timber (practical building conservation), 2012 by English Heritage
Glass and Glazing by English Heritage.
Metals by English Heritage
Roofing by A Henry, C Wood
Mortars, Renders and Plasters by A Henry, J. Stewart
Materials, technology, practice in historic heritage structures by Prikyl Richard.
Conservation Science: Historic Materials by Eric May and Marrk Jones
Why use LIME, an INTACH publication by Sangeeta Bais

PROFESSIONAL ELECTIVE I and II			
Course Code	20ADH16X	CIE Marks	100
Teaching Hours/Week (L:S:SDA)	01:01:01	SEE Marks	--
Credits	02	Exam Hours	--

20ADH16A- SOFTWARES

Objectives

The objective is to learn new software pertaining to the need of the coursework. This will provide an additional edge to already existing technical base knowledge.

Outline

- Learning the digital media and software for documenting and analyzing heritage
- Also application of these software in data generation.
- The software will be selected based on expertise required in the studio project.
- Software like Automatic detection inpainting, digital imaging, etc.

Course outcomes:

- Students will understand the need of technology as to how to read any map or an image, or document a heritage fabric.
- Since the wide applications of Digital camera and the Digitalization of old photos, inpainting has become an automatic process that is performed on Digital images. More than scratch removing, the inpainting techniques are applied to object removal, text removal and other automatic modifications of images.
- Students creatively communicate ideas through digital art.
- Students gain ability to articulate digital art concepts during discussions and critiques

Text/ Reference Books

Digital Image Inpainting by Harald Grossauer

Fundamentals of Digital Image Processing by Anil K Jain

Fundamentals of Digital Imaging by H. J. Trussell and M. J. Vrhel

20ADH16B- JOURNALISM

Objectives

This course aims to introduce writing on architecture and heritage as a method to study and interpret the built environment through analysis, criticism and review. The course will equip the students with the fundamentals, relevant skills and techniques of various genres of writing and journalism. The course will specifically help gain insights on writing skills in terms of appreciation and criticism.

Outline

- Overview and objectives of role of writing and journalism in architecture; Writing and Journalism skills: research, writing, editing and criticism.
- Techniques and methods of researching, analyzing and critiquing heritage through forms of analytical writings such as research papers, journal writings and critical essays.
- Documentation and Technical Writing, Heritage Journalism
- Mass Media and Public Opinion – critique of architecture through new age journalism and technology; Issues of code of ethics, copyright, royalty, publishing rights and policies; Citation and plagiarism

Course outcomes:

- Students will be encouraged to explore types of heritage and develop research and writing skills
- Skilled technical writings, Research design, methodologies, and abstract writing.
- Students will work on writing research analysis and conclusions with bibliography, references and conclusions.

Text/ Reference Books

How to Write a Historic Structure Report by David Arbogast

Research methods in the social sciences by Bridget Somekh ed.

Writing Architecture: A Practical Guide to Clear Communication about the Built Environment, Wiseman, Carter (2014), Trinity University Press

Writing About Architecture: Mastering the Language of Buildings and Cities, Lange, Alexandra (2012), Princeton Architectural Press

20ADH16C- HISTORIC INTERIORS

Objectives

This course aims to give an understanding of interiors in a heritage setting. Looking at heritage on a macro level, with understanding heritage materials like upholstery, furniture, fabrics, paints and polishes also styles of interior design relevant in a historic setting.

Outline

- Interiors in Heritage structures with focus on materials and elements.
- Focus on tangible and built forms, elements and interiors.
- Looking at examples from different timeline, relevance and use.
- Understanding the materials, its need and relevance.
- Evolution in historic interiors over the period of time.

Course outcomes:

- Students will be able to understand the interiors in the existing heritage structure, its assessments and analysis.
- Students will be able to propose relevant building interiors in the heritage building keeping in mind the heritage fabric and its setting.
- Students will propose relevant interventions/ policies/ proposals for the conservation of heritage fabric by retaining or proposing similar interiors or new in the building/ precinct.

Text/ Reference Books

Layers of understanding by Helen Huges
Historic Interiors: A photographic tour by Margaret Willes
Historic preservation for designers by Peter B Dedek
20ADH16D- OPEN ELECTIVE
Objectives
The college has the discretion to offer an open elective in the areas/subject other than already covered under the syllabus. The college can decide to offer need-based electives depending on the availability of the expertise. However, the college will require submitting the title of such electives with the course outline stating learning objectives and mode of delivering the content to the Registrar/ Registrar (evaluation) within the 15 days of the commencement of the semester.
Outline
• The elective will focus on expertise from various allied fields, which will help students to broaden their perspectives and horizon. • These modules can be taken up in collaboration within the institution with choosing electives from the Graduate courses of architecture, engineering or allied subjects. • The electives can also be taken from other institutions/ NGOs/ centers/ organizations, which work on product design, app design, fashion, retail, technology, art, culture, tradition, crafts, geology, interiors, etc., thus giving a deeper insight to heritage conservation. Electives from the Graduate courses of architecture, engineering or allied subjects. • The electives can also be taken from other institutions/ NGOs/ centers/ organizations, which work on product design, app design, fashion, retail, technology, art, culture, tradition, crafts, geology, interiors, etc., thus giving a deeper insight to heritage conservation.
Course outcomes:
• Students will gain new perspectives and this will open their domain to work in allied fields. • Students can also propose their interest and requirements, which will be considered while framing the open elective. • It will give an additional allied support to the existing studio project.

*** END OF I SEMESTER ***

7.2 Semester II

DIGITAL HERITAGE AND CONSERVATION STUDIO II			
Course Code	20ADH21	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	05:05:05	SEE Marks	60
Credits	10	Exam Hours	30mins/ student

Objectives

The studio will move towards analysis of the data collected in the Digital Heritage and Conservation studio I. The studio will focus majorly on the building level conservation from assessment to intervention strategies using various digital tools and techniques.
The studio aims for the conservation of common/ local unprotected structures with future needs to be integrated.
The chosen Heritage structure documented using various tools and techniques in semester-I, will be carefully analysed and appropriate interventions will be proposed for the conservation of the heritage fabric.

Module-1

Analysing the historic building, site and settlement:
With a complete set of documentation in the semester I, the studio 2 focuses on analysis of the produced drawing. A complete understanding of the site and its setting, with major focus on historic fabric, material mapping and composition.

Module-2

Understanding the structural system
Identifying the structural system with the material assessment, material mapping, structural mapping, condition assessment, historic material, non-structural material, frames, cladding, Reflected ceiling plans, evolution maps, etc.

Module-3

Complete analysis leading to interventions
Analysis of the site from a holistic approach.
Approaching and learning from various allied fields for their expertise in analysis of the site, e.g. structural engineer, landscape architects, archaeologists, anthropologists, material experts, etc.
Analysis of these parameters and evaluating the site for further proposals and interventions.
Proposing appropriate interventions for the conservation and development of site.

Module-4

Degrees of Intervention
Proposing appropriate degree of intervention as required for the particular project.
Reviewing various case studies for understanding the impact assessments
Understanding impacts associated with the proposed interventions.

Module-5

Maintenance and Management of the site.
Maintenance, Management and Conservation with adequate interventions and proposals. Understanding the Environmental Impact Assessment (EIA), Heritage Impact Assessment (HIA) for the proposed interventions.

Course outcomes:

At the end of the course the student will be able to:

- Students will have conservation planning strategies as proposals for the studio.
- Students will have adaptive reuse strategies as interventions.
- Students will work with computer systems using the software like AutoCAD, Photoshop, sketch up, GIS, Lumion, InDesign, etc.
- Students will document and do a detail and intensive study of historic cores/ urban areas/ precincts.

The students will be working in groups initially, which will become individual tasks gradually. Individual marking for the students with more weightage on the process and progress.

VIVA pattern:

- The exam will be conducted as a panel jury exam, which will be minimum of 30mins/ student, where the student will present the work in the form of sheets.
- Discussions, presentations, and studies will cover all the topics.
- The portfolio covering all the assignments will be presented for term work

Text/ Reference Books

Digital Heritage: Applying Digital Imaging to Cultural Heritage, 2006 by MacDonald, Lindsay, ed.

Ancient monuments and Archaeological Sites and Remains Act, 1958: with Rules Amendments, Notifications and Orders, 2007 by Tripathi, Alok

The Law and the Conservation of Man-made Heritage in India,1989 by E.F.N. Ribeiro

THEORY OF CONSERVATION II			
Course Code	20ADH22	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

Theory of Conservation focuses on critical thinking regarding the various aspects of heritage conservation theories at different scales. A progressive subject continues in higher semesters with increase in the complexities of these theories. At level II, conservation philosophies are introduced. The objective is to understand the history and evolution of conservation, conservation practices across the globe, ethics in conservation, the concepts of authenticity and integrity.

Module-1

History of Conservation

What is Conservation? How did conservation evolve in India? How did conservation evolve in the world? Conservation and its changing trends over time.

Module-2

Conservation practices

Conservation practices in India and Abroad, International Charters, SPAB Journal, Indian Charters, Journals, documents, The context of Nara document and its importance on defining heritage, etc.

Module-3

Authenticity and Integrity

The concept of authenticity and Integrity, Value assessment, Case studies of world heritage sites to understand the concepts of authenticity and integrity, Authenticity and integrity for interventions in Conservation, Knowledge systems in defining authenticity and integrity.

Module-4

Role of traditional knowledge system in defining authenticity and integrity, Authenticity and integrity in Indian context with emphasis of ASI conservation policy, INTACH Charter for the conservation of unprotected architectural heritage and sites in India.

Module-5

Authenticity and integrity as a bench mark of heritage, Application of authenticity and integrity in conservation

Course outcomes:

- Weekly discussions on developing critical thinking towards heritage and its conservation (Mostly in reference to their studio project)
- Students will engage in debates, dialogues with multi-disciplinary objective and experts coming from all the allied fields of conservation.
- Students will learn the theory and practice of concepts of authenticity and integrity.
- The assignments will include application of authenticity and integrity in conservation. Assignment will be in the form of a report, class reviews and tutorials covering topics mentioned above with suitable illustrations and supportive material
- Application of authenticity, integrity, and their importance in proposals and interventions.
- Writing statement of significance and integrity for various projects to help understand the concepts.

The marking will be progressive, concluding with a seminar presentation.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of four sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module
- The questions will be focusing on the student's understanding and interpretation of the theories.

Text/ Reference Books

Management Guidelines for World Cultural Heritage Sites. 2nd ed. Rome: 1998 Feilden, B.M. & Jokilehto, J

The Nara Document on Authenticity (Nara Conference on Authenticity in relation to the World Heritage Convention held at Nara, Japan from 1-6 November 1994 UNESCO, WHC

Campaign Authenticity: a series of workshops held in SPA Delhi, 2002, Coordinator: Prof Nalini Thakur, HOD, Dept of Architectural Conservation, SPA Delhi Kawathekar, V., Chandra, S. & Kodasi, S.

Authenticity in architectural heritage conservation: discourses, opinions, experiences in Europe, South and East Asia. By Katharina Weiler, Niels Gutschow

Revisiting Authenticity in the Asian Context by Gamini Wijesuriya, Jonathan Sweet

Considerations on Authenticity And Integrity in World Heritage Context Jukka Jokilheto

BUILDING TOOLS AND TECHNIQUES II			
Course Code	20ADH23	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	01:02:02	SEE Marks	60
Credits	03	--	30mins/ student
Objectives			
Application of digital technologies such as NDTs (Non Destructive techniques), Thermal scanners, laser scanners, GIS, Sketch up, Lumion, etc. to help with analysis and assessment of heritage structures and also help in interpreting interventions and proposals. This course will be an advanced version of Building tools and techniques learnt in the previous semester.			
Module-1			
An advancement to Building tools and techniques in conservation. Learning advanced use of the 2D & 3D scanning devices in analysis of the historic buildings..			
Module-2			
Learning: To study optical, survey equipment's and their software, Understanding the application, uses and working.			
Module-3			
Training: Understanding a range of recording methods used to analyze and further process the data from the historic buildings, application of the same in the conservation studio, using the softwares learnt for analysis of live projects and accumulating data.			
Module-4			
Application: Understanding the rendering software to help interpret the proposals and interventions. Using the software to understand the impact of proposed interventions.			
Module-4			
Geographical Information Systems (GIS) Advance GIS learning, plotting data on the maps, generating data maps, documenting intangible and tangible information of maps, analysis, proposals and interventions.			
Course outcomes:			

At the end of the course the student will be able to:

- Analyzing and understanding a Heritage precinct by application of survey techniques.
- Students will assess the site using different software to help gain more insights about the heritage fabric.
- CAD Applications for Base Map preparation: Recapitulation of CAD tools- drawing, editing, modifying, layer management etc.; Scaling Drawings and Images; Plotting and Printing;
- The assessment and analysis will help frame an understanding of the site, which will help in clear justified interventions and proposals.
- Students will understand the need of using digital tools and techniques in various stages of analyzing and interpreting the Heritage site.

The marking will be progressive with reports, drawings and presentations expected at various stages.

VIVA pattern:

- The exam will be conducted as a panel jury exam, which will be minimum of 30mins/ student, where the student will present the work in the form of sheets.
- Discussions, presentations, and studies will cover all the topics.
- The portfolio covering all the assignments will be presented for term work.

Text/ Reference Books

GIS Basics, 2018 by Stephen Wise

Concepts and Techniques of Geographic Information Systems, Lo C.P. and Yeung A.K.W., PHI Learning Private Limited

Digital Heritage: Applying Digital Imaging to Cultural Heritage, 2006 by MacDonald, Lindsay,ed.

Digital Applications for Cultural and Heritage Institutions (Ashgate) by James Hemsle, Vito Cappellini, Gerd Stanke

CULTURAL HERITAGE SYSTEMS II			
Course Code	20ADH24	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

Cultural heritage system II is an allied subject to develop a holistic understanding of the different components of culture like humanities, economy, sociology, archaeology, art and craft etc. A progressive subject continues in higher semesters with increase in the complexities of these components of culture.

Cultural heritage system II majorly focuses on traditional knowledge system. Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. The objective of the course is to inculcate these traditional knowledge systems for Conservation of tangible and intangible Heritage.

Module-1

Traditional Knowledge systems:
The concept of education. Formal education and traditional knowledge. Traditional Knowledge systems in day-to-day examples.

Module-2

Components of Culture: Indigenous architecture, traditional architecture, crafts, etc.

Module-3

Knowledge Systems
Documenting the tangible and intangible knowledge systems, case studies and live examples of the same.

Module-4

Oral traditions, local culture, transmission of tradition to future generations, tradition as a tool for development.

Module-5

Definition and concept of Cultural Landscapes, assessing the cultural values of a Cultural Landscapes/ Region.

Course outcomes:

- Students will work with various assignments on learning Cultural Heritage associated with people, place and time. (Mostly in reference to their studio project)
- Students will document the tangible and intangible cultural Heritage aspects, which will act as a tool for applying for various proposals.

The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

• The question paper will have ten questions. • Each full question is for 20 marks. • There will be 2 full questions (with a maximum of four sub questions in one full question) from each module. • Each full question with sub questions will cover the contents under a module. • Students will have to answer 5 full questions, selecting one full question from each module.
Text/ Reference Books
Heritage Studies: Methods and Approaches by Marie Louise Stig Sorensen, John Carman
Order of things: An Archaeology of the Human Sciences, 1994 by Foucault, Michel
Traditional Building: A global survey of structural forms and cultural functions Noble by Allen G.
Craft techniques for Traditional Buildings, Batsford, 1991 by Wright, A.

STRUCTURES AND MATERIALS II			
Course Code	20ADH25	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

The subject focuses on understanding the building materials in a historic fabric, with focus on material mapping, Condition assessment, analysis and proposing relevant interventions for its conservation. Strengthening and retrofitting becomes an integral part of the learning process.

Module-1

Introduction:
Learning about the various techniques for structural analysis, inspection and diagnosis for structures.
Introduction to the concepts of Strengthening and Retrofitting. Similarities and differences between the both.

Module-2

Understanding the past remedial measures incorporated and its impact to the structures.

Module-3

Understanding methods, materials, failures, defects and distress in historic structures.

Module-4

Assessment and diagnosis of the structures using advanced techniques

Module-5

Remedial measures and solutions for strengthening and retrofitting of structures.
Diagnosis and assessment of defects in building materials due to various factors like rain, natural calamities, human interventions, population, pollution, atmospheric elements, etc.

Course outcomes:

- Students will be able to observe, analyze and interpret the heritage materials and their structural systems in the heritage fabric.
- Students will be equipped with the knowledge of urban regeneration, strengthening and retrofitting.

The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of four sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module

Text/ Reference Books

Repair of Ancient Buildings, Society for Protection of Ancient Buildings, 1981 by Powys, A. R.
Structural Aspects of Building Conservation, McGraw Hill, 1995 by Beckmann, Poul
Conservation Manual: A handbook for the use of Archaeological Officers and others entrusted with the care of ancient monuments, 1923 by John Marwill

RESEARCH METHODOLOGY & IPR			
Course Code	20ADH26	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	01:01:01	SEE Marks	60
Credits	02	Exam Hours	03

Objectives

The course is an introduction to the design of research projects. The course follows the scientific and quasi scientific approach to research design within the social sciences frame work. The objective is to introduce the meaning, concepts and methods of Research towards a structured, systematic and logical inquiry in projects; to enable technical writing skill, publication and ethics.

Module-1

Research Methodology: Introduction, Meaning of Research, Objectives of Research, Motivation in Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Importance of Knowing How Research is Done, Research Process, Criteria of Good Research, and Problems Encountered by Researchers in India.

Defining the Research Problem: Research Problem, Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem, An Illustration.

Module-2

Reviewing the literature: Place of the literature review in research, Bringing clarity and focus to your research problem, Improving research methodology, Broadening knowledge base in research area, Enabling contextual findings, How to review the literature, searching the existing literature, reviewing the selected literature, Developing a theoretical framework, Developing a conceptual framework, Writing about the literature reviewed.

Research Design: Meaning of Research Design, Need for Research Design, Features of a Good Design, Important Concepts Relating to Research Design, Different Research Designs, Basic Principles of Experimental Designs, Important Experimental Designs.

Module-3

Design of Sampling: Introduction, Sample Design, Sampling and Non-sampling Errors, Sample Survey versus Census Survey, Types of Sampling Designs.
Measurement and Scaling: Qualitative and Quantitative Data, Classifications of Measurement Scales, Goodness of Measurement Scales, Sources of Error in Measurement Tools, Scaling, Scale Classification Bases, Scaling Techniques, Multidimensional Scaling, Deciding the Scale.

Data Collection: Experimental and Surveys, Collection of Primary Data, Collection of Secondary Data, Selection of Appropriate Method for Data Collection, Case Study Method

Module-4

Testing of Hypotheses: Hypothesis, Basic Concepts Concerning Testing of Hypotheses, Testing of Hypothesis, Test Statistics and Critical Region, Critical Value and Decision Rule, Procedure for Hypothesis Testing, Hypothesis Testing for Mean, Proportion, Variance, for Difference of Two Mean, for Difference of Two Proportions, for Difference of Two Variances, P-Value approach, Power of Test, Limitations of the Tests of Hypothesis.
Chi-square Test: Test of Difference of more than Two Proportions, Test of Independence of Attributes, Test of Goodness of Fit, Cautions in Using Chi Square Tests.

Module-5

Interpretation and Report Writing: Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation, Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports.

Intellectual Property: The Concept, Intellectual Property System in India, Development of TRIPS Complied Regime in India, Patents Act, 1970, Trade Mark Act, 1999,The Designs Act, 2000, The Geographical Indications of Goods (Registration and Protection) Act1999, Copyright Act,1957,The Protection of Plant Varieties and Farmers‟ Rights Act, 2001, Trade Secrets, Utility Models, IPR and Biodiversity, The Convention on Biological Diversity (CBD) 1992, Competing Rationales for Protection of IPRs, Leading International Instruments Concerning IPR, World Intellectual Property Organization (WIPO),WIPO and WTO, Paris Convention for the Protection of Industrial Property, National Treatment, Right of Priority, Common Rules, Patents, Marks, Industrial Designs, Trade Names, Indications of Source, Unfair Competition, Patent Cooperation Treaty (PCT), Advantages of PCT Filing, Berne Convention for the Protection of Literary and Artistic Works, Basic Principles, Duration of Protection, Trade related Aspects of Intellectual property rights (TRIPS) agreement, covered under TRIPS agreement, features of the agreement, protection of Intellectual property under TRIPS. Copyright and related rights, trademarks, Geographical indications, Industrial Designs, Patents, Patentable Subject Matter, Rights Conferred, Exceptions, Term of protection, Conditions on Patent Applicants, Process Patents, Other Use without Authorization of the Right Holder, Protection of Undisclosed Information, Enforcement of Intellectual Property Rights, UNSECO.

Course outcomes:

At the end of the course the student will be able to: develop the research skills in a systematic manner which will impart the ability to select appropriate research methodology, experimental design, follow professional ethics and academic integrity, and develop written presentation skills, Discuss various forms of the intellectual property, its relevance and business impact in the changing global business environment and leading International Instruments concerning IPR

The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

• The question paper will have ten questions. • Each full question is for 20 marks. • There will be 2 full questions (with a maximum of four sub questions in one full question) from each module. • Each full question with sub questions will cover the contents under a module. • Students will have to answer 5 full questions, selecting one full question from each module
Text/ Reference Books
Research Methodology: Methods and Techniques, C.R. Kothari, Gaurav Garg,New Age International,4th Edition, 2018.
Research Methodology a step-by-step guide for beginners. (For the topic Reviewing the literature under module 2), RanjitKumar,SAGE Publications,3rd Edition, 2011.
Study Material (For the topic Intellectual Property under module 5), Professional Programme Intellectual Property Rights, Law and Practice, The Institute of Company Secretaries of India, Statutory Body Under an Act of Parliament, September 2013.
Research Methods: the concise knowledge base, Trochim, Atomic Dog Publishing, 2005.
Conducting Research Literature Reviews: From the Internet to Paper, Fink A, Sage Publications, 2009

PROFESSIONAL ELECTIVE III			
Course Code	20ADH27X	CIE Marks	100
Teaching Hours/Week (L:S:SDA)	01:01:01	SEE Marks	--
Credits	02	Exam Hours	--

20ADH27A- SERVICES IN HERITAGE BUILDINGS

Objectives

This course aims to give an understanding of building services in heritage structures such as plumbing, lighting, HVAC, acoustics and illumination. Heritage lighting has become an integral part of conservation and this subject will help achieve insights in the same. Integrating the modern services in projects of adaptive reuse in heritage buildings.

Outline

- Objectives of understanding building services in Heritage structures.
- Understanding the concept of acoustics and illumination in a heritage structure.
- Understanding the benefits of the various systems and conflicts with the values of the heritage.
- Understanding the plumbing, sanitation, HVAC in a heritage fabric and heritage precinct.
- Help understand the relevant materials, elements, forms used for the building services.
- Analysis and understanding the existing setting and proposing relevant interventions for conservation of the same.

Course outcomes:

- Students will be able to understand the relevant services in the existing heritage structure, its assessments and analysis.
- Students will be able to propose relevant building services in the heritage building keeping in mind the heritage fabric and its setting.
- Students will propose relevant interventions/ policies/ proposals for the conservation of heritage fabric by retaining or proposing services in the building/ precinct.

Text/ Reference Books

Guide to Building services for historic buildings by CIBSE

Surveying historic buildings by David Watt

Structures and construction in historic building conservation by Michael Forsyth

20ADH27B- PROJECT MANAGEMENT

Objectives

To enhance the professional ability of the student to manage a conservation project by exposing the students to the currently prevalent techniques in the planning, programming and management of a project. This course aims to give to equip the students with a complete understanding and working of projects. With this subject, students will be able to draft BOQ's, DPR's and make estimates for the project.

Outline

- Introduction to Project, its Stages and Construction Project management
- Types of Projects, Life Cycle Stages of a Project, stages of conservation, conservation in phases, etc.
- The roles of the various members of a typical construction organization, qualities of an ideal construction organization, ethics in construction industry.
- Project Management Stages: Project planning, project scheduling and project controlling.
- Time, Cost and Resource Management in Conservation
- Drafting reports, DPR's/ PPR's and BOQ's to get an estimate of the project.

Course outcomes:

- Students will be able to complete and conclude the project by drafting relevant reports and making an estimate for the project
- Students will understand the conservation work in phases.
- Students will be able to propose relevant building interventions in phases with cost calculations.

Text/ Reference Books

Project management for Architects' and civil Engineers, S.P.Mukhopadyay, IIT, Kharagpur, 1974

20ADH27C- OPEN ELECTIVE

Objectives

The college has the discretion to offer an open elective in the areas/subject other than already covered under the syllabus. The college can decide to offer need-based electives depending on the availability of the expertise. However, the college will require submitting the title of such electives with the course outline stating learning objectives and mode of delivering the content to the Registrar/ Registrar (evaluation) within the 15 days of the commencement of the semester.

Outline

- The elective will focus on expertise from various allied fields, which will help students to broaden their perspectives and horizon.
- These modules can be taken up in collaboration within the institution with choosing electives from the Graduate courses of architecture, engineering or allied subjects.
- The electives can also be taken from other institutions/ NGOs/ centres/ organizations, which work on product design, app design, fashion, retail, technology, art, culture, tradition, crafts, geology, interiors, etc., thus giving a deeper insight to heritage conservation.

Course outcomes:

- Students will gain new perspectives and this will open their domain to work in allied fields.
- Students can also propose their interest and requirements, which will be considered while framing the open elective.
- It will give an additional allied support to the existing studio project.

*** END OF II SEMESTER ***

7.3 Semester III

DIGITAL HERITAGE AND CONSERVATION STUDIO III			
Course Code	20ADH31	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	05:05:05	SEE Marks	60
Credits	10	Exam Hours	30mins/ student
Objectives			
The studio III focuses majorly on understanding the heritage at an urban scale as a cultural landscape. The objective is to understand the layers of heritage associated with a region and demarcate the heritage precinct with careful analysis of available resources. The focus will be to understand and appreciate multiple layers in the evolution of the landscape and intervention strategies to conserve.			
Module-1			
Cultural landscape Understanding the terms, cultural landscapes and urban conservation. Linkages, circulations and relationships to the elements of a historic area. Understanding heritage at a regional scale including cultural landscapes/ regions/sacred groves with built heritage etc.			
Module-2			
Data Collection and Interpretation Demarcating heritage areas using various parameters like ownership, value assessment, significance, function, use, etc. Statement of significance for the historic region			
Module-3			
Analysis leading to interventions Understanding heritage management plans and development of heritage. Proposals and Interventions / Conservation plans / Management plans.			
Module-4			
To understand various tools and applications which are in current use. To understand the concept and theory on immersive experience.			
Module-5			
Maintenance and Management of the site. Maintenance, Management and Conservation with adequate interventions and proposals. Understanding the Environmental Impact Assessment (EIA), Heritage Impact Assessment (HIA) for the proposed interventions.			
Course outcomes:			

At the end of the course the student will be able to:

- Students will study and find solutions to problem and issues confronting heritage at regional scale
- Immersive experiences achieved by multiple projectors with graphical user interface having 360 degrees image of the object with location mapping to be developed in three different parts.
- Students will recreate imageries, scenes or 3D models etc., as part of immersive experiences.

The marking will be progressive and the students will be working in groups.

VIVA pattern:

- The exam will be conducted as a panel jury exam, which will be minimum of 30mins/ student, where the student will present the work in the form of sheets.
- Discussions, presentations, and studies will cover all the topics.
- The portfolio covering all the assignments will be presented for term work

Text/ Reference Books

Heritage Conservation: Preservation and Restoration of Monuments – 1996 Batra, N.L

A Guide to the Project Management Body of Knowledge: PMBOK(R) Guide Project Management Institute

Building Performance: Function, Preservation, and Rehabilitation ASTM Special Technical Publication

THEORY OF CONSERVATION III			
Course Code	20ADH32	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

In Theory of conservation III, conservation laws and legislation are introduced. The objective is to understand the various international charters, documents and regulations, Indian policies and schemes like AMRUT, JNNURM and HRIDAY. Also, to enhance the understanding of international approaches towards conservation and influence of international politics in heritage conservation.

Module-1

Role of Conservation

Understand the role of legislation and public policy in Heritage management and Conservation. Capacity Building of officers, local communities towards heritage protection.

Module-2

The role of national charters and conventions on the practices of Heritage management and Conservation.

Module-3

The inter-relationship of legislation and policy and the Conservation and management process.

Module-4

The role of both public and private lobby/interest groups in the development of Conservation and Heritage policy

Module-5

The role of expertise in the mediation of conflicts over the management and meaning of Heritage.

Course outcomes:

- Students will be acquainted with the philosophies and principles of conservation.
- The assignments will include studies of various charters and roles of various organisations in conservation.

Assignment will be in the form report, class reviews and tutorials covering topics mentioned above with suitable illustrations and supportive material.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of four sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module
- The questions will be focusing on the student's understanding and interpretation of the theories.

Text/ Reference Books
The Law and the Conservation of Man-made Heritage in India,1989 by E.F.N. Ribeiro
Ancient monuments and Archaeological Sites and Remains Act, 1958: with Rules Amendments, Notifications and Orders, 2007 by Tripathi, Alok
Time, Process and Structured Transformation in Archaeology, 2010 by McGlade, James, ed. and Leeuw, Sander Van Der, ed.
Risk Preparedness: A Management Manual for World Cultural Heritage ICCROM, 2007 by Stovel
ICOMOS guidelines for cultural world heritage properties, Jan 2011 by ICOMOS
A Cultural heritage assessment of the impact on the outstanding universal value of the Greenwich maritime world heritage site, 2010 by ICOMOS
Management Guidelines for World Cultural Heritage Sites ICCROM, 2005 by Feilden, B.M.; Jokilehto, Jukka

URBAN TOOLS AND TECHNIQUES			
Course Code	20ADH33	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	01:02:02	SEE Marks	60
Credits	03	Exam Hours	30mins/ student

Objectives

Learning Urban scanning techniques, using satellite mapping and learning advanced GIS for analysing and interpreting site at an urban level.

Module-1

An advancement to Building tools and techniques in conservation at area level.
Learning advanced use of scanning techniques, GIS at urban level to study historic precincts and areas.

Module-2

Learning: Advanced use of satellite imaging, remote sensing and GIS to help understand and analyze the heritage fabric.

Module-3

Application: Using the software to analyze and interpret the data on a precinct/ area level.

Module-4

Geographical Information Systems (GIS)
Using GIS to create area level maps, analysis and interpretation.

Course outcomes:

At the end of the course the student will be able to:

- Base map Preparation: Representation of Spatial Data; Choice of Appropriate Scales: graphical, Linear and Areal Scales; Contents of Base Maps at Various Scales; Notations -Basic Disciplines of Maps;
- Analyzing and understanding a Heritage precinct / area by application of tools and techniques.
- Students will assess the site using different software to help gain more insights about the heritage fabric.
- The assessment and analysis will help frame an understanding of the precinct, to help understand the site and surroundings.

The marking will be progressive with reports, drawings and presentations expected at various stages.
Students will understand the need of using digital tools and techniques in various stages of analysing and interpreting the Heritage site.

VIVA pattern:

- The exam will be conducted as a panel jury exam, which will be minimum of 30mins/ student, where the student will present the work in the form of sheets.
- Discussions, presentations, and studies will cover all the topics.

• The portfolio covering all the assignments will be presented for term work.
Text/ Reference Books
Remote Sensing and Image Interpretation, Thomas M. Lillesand et all, John Wiley and Sons Ltd.
Remote Sensing and GIS, Basdudeb Bhatta, Oxford University Press
Spatial Analysis, Mark R. T. Dale, Marie-Josée Fortin, Cambridge University Press

URBAN SYSTEMS			
Course Code	20ADH34	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

Urban system aims at learning historic core in a larger scale, with factors such as the mobility, infrastructure, transport of an urban area. It also covers various bylaws, policies, community participation at various stages of decision making in a society.

Module-1

Understanding urban transportation and movement with respect to change in the society.

Module-2

Understanding urban infrastructure and urban conservation.

Module-3

Critically analyzing the management principles, policies and bylaws.

Module-4

Understanding community participation and engagement in the process of decision-making.

Module-5

Urban Policies, laws, etc. related to heritage conservation.

Course outcomes:

- Students will work with various assignments on learning Cultural Heritage associated with people, place and time. (Mostly in reference to their studio project)
- Students will document the tangible and intangible cultural Heritage aspects, which will act as a tool for applying for various proposals.
- The marking will be progressive with reports, drawings and presentations expected at various stages.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of four sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module

Text/ Reference Books

Cultural Urban Heritage by Mladen Obad Scitaroci, Bojana Bojanic Obad Scitaroci and Ana Mrda

The Dynamics of complex urban systems by Sergio Albeverio, Denise Andrey, Paolo Giordano

Understanding Complex Urban Systems by Christian Walloth, Ernst Gebetsroither- Geringer, Funda Atun.

THESIS SEMINAR			
Course Code	20ADH35	CIE Marks	100
Teaching Hours/Week (L:S:SDA)	00:02:02	SEE Marks	--
Credits	02	Exam Hours	30mins/ student

Objectives

The Thesis Seminar course is designed to discover, frame and develop research on a Proposal for a Conservation Project. The objective of the Thesis Seminar is to expand the scope and focus of the student by introducing diverse topics in digital and heritage conservation (allied disciplines) and to nurture projects that can make creative and technically competent contributions to the field of heritage conservation.

The Thesis Proposals can be developed from important issues on heritage (inter-disciplinary), hypothetical scenarios connected with heritage (theoretical premise) or live/ current projects proposed by government or other organizations. It can also be a research-based project.
The objective of the seminar is to inculcate self-learning, face audience confidently, enhance communication skill, involve in group discussion and present and exchange ideas.
Each student, under the guidance of a Faculty, is required to

- Choose, preferably through peer reviewed journals, a recent topic of his/her interest relevant to the Course of Specialization.
- Carryout literature survey, organize the Course topics in a systematic order.
- Prepare the report with own sentences.
- Present the seminar topic orally and/or through power point slides.
- Answer the queries and involve in debate/discussion.
- Submit two copies of the typed report with a list of references.

The participants will take part in discussion to foster friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.
The CIE marks for the seminar will be awarded (based on the relevance of the topic, presentation skill, participation in the question and answer session and quality of report) by the committee constituted for the purpose by the Head of the Department.

Modules

- Identifying the domain of research, its sources of information and developing framework.
- Identifying the research area and developing synopsis to bridge in the gap.
- The synopsis developed will help to pursue the Thesis in the next semester.
- Focus on innovation, experimentation (theoretical premise/ tectonics/modes of representation/other) as some of the learning outcomes and draw inspiration/build on the various Electives/ Studios proposed/taken through the Program.
- The Thesis Seminar will be conducted as a combination of interactive workshops, presentations/ seminar, key lectures and focused discussions with individual students on chosen topics.

Course outcomes:

• The outcome will include a formal submission of Written Synopsis (key ideas on the topic including premise, description/ justification and conclusion) and Thesis Proposal Document (booklet) clearly highlighting/explaining the Project type. • Portfolio of presentations, critical readings, drawings/ models produced by the student on the chosen topic. • The grading will consider the participation and depth of inquiry presented by each student and the various submissions/ reviews on each topic organized through the term. • The marking will be progressive with reports, drawings and presentations expected at various stages.
Text/ Reference Books
Architectural Research Methods, 2002 by Linda Grant and David Wang, John Wiley Sons
The Dissertation, Iain Borden and Katerina Rüedi, Architectural Press, 2000

PROFESSIONAL ELECTIVE VI			
Course Code	20ADH36X	CIE Marks	100
Teaching Hours/Week (L:S:SDA)	01:01:01	SEE Marks	--
Credits	02	Exam Hours	--

20ADH36A- HERITAGE MANAGEMENT

Objectives

This subject highlights the management of Heritage by careful documentation and planned interventions. Management also deals with post conservation strategies; the challenges faced post the conservation of heritage structure.

Outline

Introduce students to the basic principles, concepts and philosophy of Heritage management and Conservation and place these within a historical and cultural context.

Course outcomes:

- Develop a critical understanding of the concept of Heritage, the principles of Heritage management and their consequences.
- Understand the role of legislation and public policy in Heritage management and Conservation.
- Understand the role of national charters and conventions on the practices of Heritage management and Conservation.

Text/ Reference Books

- Cultural Heritage Management- A global perspective- by Phyllis Mauch Messenger, George S Smith.
- Operational Guidelines for the implementation of World Heritage Convention, UNESCO, World Heritage Centre
- Managing world heritage sites by Anna Leask ed.
- Guide to UNESCO world heritage site in India by A. K. Khanna

20ADH36B- HERITAGE IMPACT ASSESSMENT

Objectives

The subject allows the students to understand the importance of heritage in Indian and International context. It helps establish a relationship between laws with their jurisdiction to conservation practice.

Outline

- Introduction to laws for protection of heritage in India, Town and Country planning acts, State acts, etc
- Legal protection under Ancient Monuments and Archaeological Sites and Remains Act of 1958 with all its amendments.
- Role of UNESCO, ICOMOS, ICCROM, other international bodies in protection of heritage
- Archaeological Survey of India, National Monument Authority, etc. in protection of heritage in India.
- Legal systems of protection of heritage across the globe.
- Understanding principles of Heritage Impact Assessment.
- Methodology and understanding the impact of development on the heritage value.

Course outcomes:
• Students shall be equipped with the knowledge of legal systems in India and abroad. • The assignments shall be based on legal documents and their reviews. • Assignment shall include a case study and preparation of Heritage Impact Assessment. • Assignment will be in the form of reports, reviews and tutorials with suitable case studies. The marking shall be progressive with reports, drawings and presentations expected at various stages.
Text/ Reference Books
• The Law and the Conservation of Man-made Heritage in India,1989 by E.F.N. Ribeiro
• Ancient monuments and Archaeological Sites and Remains Act, 1958: with Rules Amendments, Notifications and Orders, 2007 by Tripathi, Alok
• Time, Process and Structured Transformation in Archaeology, 2010 by McGlade, James, ed. and Leeuw, Sander Van Der, ed.
• Risk Preparedness: A Management Manual for World Cultural Heritage ICCROM, 2007 by Stovel, H
• ICOMOS guidelines for cultural world heritage properties, Jan 2011 by ICOMOS
• A Cultural heritage assessment of the impact on the outstanding universal value of the Greenwich maritime world heritage site, 2010 by ICOMOS
• Management Guidelines for World Cultural Heritage Sites ICCROM, 2005 by Feilden, B.M.; Jokilehto, Jukka
20ADH36C- OPEN ELECTIVE
Objectives
The college has the discretion to offer an open elective in the areas/subject other than already covered under the syllabus. The college can decide to offer need-based electives depending on the availability of the expertise. However, the college will require submitting the title of such electives with the course outline stating learning objectives and mode of delivering the content to the Registrar/ Registrar (evaluation) within the 15 days of the commencement of the semester.
Outline
• The elective shall focus on expertise from various allied fields, which shall help students to broaden their perspectives and horizon. • These modules can be taken up in collaboration within the institution with choosing electives from the Graduate courses of architecture, engineering or allied subjects. • The electives can also be taken from other institutions/ NGOs/ centres/ organizations, which work on product design, app design, fashion, retail, technology, art, culture, tradition, crafts, geology, interiors, etc., thus giving a deeper insight to heritage conservation.
Course outcomes:
• Students shall gain new perspectives and this shall open their domain to work in allied fields. • Students can also propose their interest and requirements, which will be considered while framing the open elective. • It will give an additional allied support to the existing studio project.

PROFESSIONAL TRAINING/ APPRENTICESHIP			
Course Code	20ADH37	CIE Marks	--
Teaching Hours/Week (L:S:SDA)	--	SEE Marks	100
Credits	03	Exam Hours	30mins/ student

Objectives

To provide exposure to the various aspects of Digital heritage and conservation architectural practice.

Professional training/ apprenticeship provide students the opportunity of hands-on experience that include personal training, time and stress management, interactive skills, presentations, budgeting, marketing, liability and risk management, paperwork, equipment ordering, maintenance, responding to emergencies etc. The objective are further,

- To expand thinking and broaden the knowledge and skills acquired through course work in the field.
- To relate to, interact with, and learn from current professionals in the field.
- To gain a greater understanding of the duties and responsibilities of a professional.
- To understand and ADHre to professional standards in the field.
- To gain insight to professional communication including meetings, memos, reading, writing, public speaking, research, client interaction, input of ideas, and confidentiality.
- To identify personal strengths and weaknesses.
- To develop the initiative and motivation to be a self-starter and work independently.

Modules/ outlines

- The student will be exposed to preparation of conservation drawings, detailed project reports, preparation of 3D models for the monuments, computer applications in design and drafting, filing system in respect of documents, drawing and preparation of tender documents.
- Site experience may be given in respect of supervision of the construction activity, observing the layout on heritage site, study of the stacking methods of various heritage-building materials, study of taking measurement and recording.

Course outcomes:

- Training Report: This will contain copies of only such drawings, which have been dealt, drafted or designed by student. It will also contain a brief description of heritage works handled during the training along with photographs, pencil sketches etc.
- Building Study – This will include a detailed critical study of a building restored by the conservation architect with whom the student has worked. The study should include of function, aesthetics, context, structure etc., this will be presented through drawings, photographs, write-ups etc.

At the end of the course the student will be able to:

- Gain practical experience within industry in which the internship is done.
- Acquire knowledge of the industry, experience the activities and functions of professionals.
- Develop and refine oral and written communication skills.
- Identify areas for future knowledge and skill development.
- Expand intellectual capacity, credibility, judgment, intuition.

VIVA pattern:
• The exam will be conducted as a panel jury exam, which will be minimum of 30mins/ student, where the student will present the work in the form of sheets. • Discussions, presentations, and studies will cover all the topics. • The portfolio covering all the assignments will be presented for term work

*** END OF III SEMESTER ***

7.4 Semester IV

<table>
<tr><td colspan="4">THESIS PROJECT</td></tr>
<tr><td>Course Code</td><td>20ADH41</td><td>CIE Marks</td><td>40</td></tr>
<tr><td>Teaching Hours/Week (L:S:SDA)</td><td>05:08:11</td><td>SEE Marks</td><td>60</td></tr>
<tr><td>Credits</td><td>15</td><td>Exam Hours</td><td>30mins/ student</td></tr>
<tr><td colspan="4">Objectives</td></tr>
<tr><td colspan="4">The subject is a cumulative assessment of using Digital media as a tool for understanding and conserving Heritage. Thesis project is a project undertaken by the students as a complete project reflecting the studies undertaken in the entire course.</td></tr>
<tr><td colspan="4">Modules/ Course outline</td></tr>
<tr><td colspan="4">• The major conclusive project, which reflects the academic effort and culmination of all the learnings from previous semester.
• The topics will be chosen by the students as per their areas of interest.

Course objectives:
• To support independent learning.
• To guide to select and utilize adequate information from varied resources maintaining ethics.
• To guide to organize the work in the appropriate manner and present information (acknowledging the sources) clearly.
• To develop interactive, communication, organization, time management, and presentation skills.
• To inspire independent and team working.
• To expand intellectual capacity, credibility, judgement, intuition.</td></tr>
<tr><td colspan="4">Course outcomes:</td></tr>
<tr><td colspan="4">At the end of the course the student will be able to:
• Students will use the knowledge of research methodology, Digital media and technical framework to initiate a thesis project study.
• A student should submit original work. No form of plagiarized work will be entertained.
• The work will be progressive, starting from theoretical research and framework, literature reviews, documentation, site work, with interventions and proposals as a part of conclusion.
• Progressive evaluation will be done by internal and external jurors over the entire semester.
• Students will deliver drawings, reports, 3D models, etc. as a part of documentation work, with proposals and interventions for Conservation.</td></tr>
<tr><td colspan="4">VIVA pattern:</td></tr>
</table>

Continuous Internal Evaluation:

- Project Report: The basis for awarding the marks will be the involvement of the student in the project and in the preparation of project report. To be awarded by the internal guide in consultation with external guide if any.
- Project Presentation: The Project Presentation marks of the Project Work, will be awarded by the thesis panel/ committee.
- The student will be evaluated based on the ability in the viva/ jury session
- Semester End Examination: SEE marks for the project report, seminar and viva will be awarded (based on the quality of report and presentation skill, participation in the question and answer session) by the examiners appointed by the University.
- The exam will be conducted as a panel jury exam which will be minimum of 30mins/ student, where the student will present the work in the form of sheets.
- Discussions, presentations, and studies will cover all the topics.
- The portfolio covering all the assignments will be presented for term work

THEORY OF CONSERVATION IV			
Course Code	20ADH42	CIE Marks	40
Teaching Hours/Week (L:S:SDA)	03:00:00	SEE Marks	60
Credits	03	Exam Hours	03

Objectives

The objective is to introduce personalities, ideologies and various philosophies that helped to formulate the principles of conservation discipline, as it exists today in India and abroad. The students will be introduced to the various new dimensions in heritage conservation such as shared heritage, modern heritage, nature and culture, global issues, risk preparedness, disaster management etc.

Module-1

Inter-Cultural Competence
Inter-cultural communication, cross-cultural communication, relation between culture and globalization

Module-2

Significance of cultural influences, to become aware of cultural differences and similarities, and to encourage others to interact and communicate efficiently with people of different disciplines and diverse cultural backgrounds.

Module-3

Exploring new categories in heritage like cultural routes, historic trade routes etc.

Module-4

Understanding the nature-culture linkage, global issue like agenda 21, impact of climate change on heritage etc.

Module-5

Risk-preparedness in built heritage, disaster management strategies etc.

Course outcomes:

- Students will be acquainted with the evolving changes in the field conservation and practice.
- The assignments will include studies of various charters and roles of various organisations in conservation.
- Assignment will be in the form report, class reviews and tutorials covering topics mentioned above with suitable illustrations and supportive material.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of four sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module
- The questions will be focusing on the student's understanding and interpretation of the theories.

Text/ Reference Books
Intercultural Competence: Interpersonal Communication Across Cultures by Lustig Myron
Inclusive education across cultures: crossing boundaries, sharing ideas Mithu Alur
Six thinking hats: run better meetings, make faster decisions Edward de Bono
Cultural Studies: Theory and Practice Chris Barker, Emma A. Jane

PROFESSIONAL ELECTIVE VI			
Course Code	20ADH43X	CIE Marks	100
Teaching Hours/Week (L:S:SDA)	01:01:01	SEE Marks	--
Credits	02	Exam Hours	--

20ADH43A- WORLD HERITAGE STUDIES

Objectives

The objective is to develop skills required for protection, management and presentation of World Heritage Sites.

Outline

- Organization of World Heritage Committee and its roles.
- Operational Guidelines, Outstanding Universal Values, Associated organizations and bodies.
- Process of Nomination, Nomination Dossiers, Requirements of Management of World Heritage Sites
- Impact of nomination of World Heritage Site on socio economic condition of the surroundings.

Course outcomes:

- Students will understand these theories with various examples from Indian and International context.
- Students will acquire knowledge about nomination process of World Heritage Site. Assignment will include preparation of tentative list document for a given site.

Text/ Reference Books

Convention concerning the protection of the World Cultural and Natural Heritage: adopted by the General Conference at its 17th session, Paris. UNESCO 1972 by UNESCO

Operational Guidelines for the implementation of World Heritage Convention, UNESCO, World Heritage Centre

Managing world heritage sites by Anna Leask ed.

Guide to UNESCO world heritage site in India by A. K. Khanna

20ADH43B- ADVANCE DIGITAL MEDIA (SOFTWARES)

Objectives

The subject allows the students to learn advance softwares.

Outline

- Learning advance digital media and softwares for documenting and analysing heritage fabric
- Also application of these softwares in data generation.
- Mobile application development, C++, java, HTMLS, app celerator etc
- The softwares will be selected based on expertise required in the studio project.
- Softwares like Automatic detection inpainting, digital imaging, etc.

Course outcomes:

• Updated and advanced technology. • Mobile user interface design.
Text/ Reference Books
Digital Image Inpainting by Harald Grossauer
Fundamentals of Digital Image Processing by Anil K Jain
Fundamentals of Digital Imaging by H. J. Trussell and M. J. Vrhel
20ADH43C- OPEN ELECTIVE
Objectives
The college has the discretion to offer an open elective in the areas/subject other than already covered under the syllabus. The college can decide to offer need-based electives depending on the availability of the expertise. However, the college will require submitting the title of such electives with the course outline stating learning objectives and mode of delivering the content to the Registrar/ Registrar (evaluation) within the 15 days of the commencement of the semester.
Outline
• The elective will focus on expertise from various allied fields, which will help students to broaden their perspectives and horizon. • These modules can be taken up in collaboration within the institution with choosing electives from the Graduate courses of architecture, engineering or allied subjects. • The electives can also be taken from other institutions/ NGOs/ centres/ organizations, which work on product design, app design, fashion, retail, technology, art, culture, tradition, crafts, geology, interiors, etc., thus giving a deeper insight to heritage conservation.
Course outcomes:
• Students will gain new perspectives and this will open their domain to work in allied fields. • Students can also propose their interest and requirements, which will be considered while framing the open elective. • It will give an additional allied support to the existing studio project.

*** END OF IV SEMESTER***