

Department of Applied Sciences & Humanities
Dr.B.R. Ambedkar Govt. Polytechnic, Ambota
Distt. – Una (H.P.)

LESSON PLAN

Program Name	ARCHITECTURE
Subject Name	ARCHITECTURE MATHEMATICS
Subject Code	ARBS – 2005
Semester	2 nd
Subject Teacher Name	Sandeep Kumar

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)	Marks in Evaluation Scheme						
			Internal Assessment			External Assessment			
			Th	DCS	Th	Pr	Total	Th	Pr
1.	ARCHITECTURE MATHEMATICS	3	2	40	-	40	60	-	60
Reference Books		(vii) B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, New Delhi, 40 th Edition, 2007							
		(viii) S.S. Sabharwal, Sunita Jain, Eagle Parkashan, Applied Mathematics, Vol. I & II, Jalandhar.							

Course Outcomes (COs)

CO – 1	The students are expected to acquire necessary background in Trigonometry to appreciate the importance of the geometric study as well as for the calculation and the mathematical analysis.
CO – 2	The students are expected to acquire necessary background in Determinants and Matrices so as to appreciate the importance of the Determinants are the factors that scale different parameterizations so that they all produce same overall integrals, i.e. they are capable of encoding the inherent geometry of the original shape.
CO – 3	The students are able to solve the basic problems of Differentiation and Integration.

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I	Introduction of Matrices & Determinants	27/01/2026		
	Matrices	28/01/2026 29/01/2026 31/01/2026		
	Doubt Clearing Session	02/02/2026		
	Algebra of matrices	03/02/2026 04/02/2026		
	Determinants	07/02/2026 09/02/2026		
	Determinants	10/02/2026		



Matrices and Determinants

Doubt Clearing Session	11/02/2026		
Value of determinants of 2nd & 3rd order	12/02/2026		
Doubt Clearing Session	16/02/2026		
Value of determinants of 2nd & 3rd order	17/02/2026		
Doubt Clearing Session	18/02/2026		
Crammer's rule for solving two variables and three variables linear equations	19/02/2026 21/02/2026		
Doubt Clearing Session	23/02/2026		
Adjoint & Inverse of a matrix	24/02/2026		
Doubt Clearing Session	25/02/2026		
Matrix inverse method to solve a system of linear equations in two and three variables	26/02/2026 28/02/2026		
Doubt Clearing Session	02/03/2026		

UNIT-II

Vector Algebra and Trigonometry

Introduction of Vector Algebra	03/03/2026		
Doubt Clearing Session	05/03/2026		
Notation and rectangular resolution of a vector	07/03/2026 09/03/2026		
Doubt Clearing Session	10/03/2026		
Addition and subtraction of vectors.	11/03/2026		
Doubt Clearing Session	12/03/2026		
Scalar and vector products of 2 vectors.	16/03/2026		
Class Test-1	17/03/2026		
Concept of angles in Trigonometry	18/03/2026		
Doubt Clearing Session	19/03/2026		
Measurement of angles in degrees	23/03/2026 24/03/2026		
Doubt Clearing Session	25/03/2026		
Grades and radians and their conversions.	28/03/2026 30/03/2026		
Doubt Clearing Session	31/03/2026		
Doubt Clearing Session	01/04/2026		
T-Ratios of Allied angles (without proof)	02/04/2026 04/04/2026		
Doubt Clearing Session	06/04/2026		
T-Ratios of Allied angles (without proof)	07/04/2026		
Doubt Clearing Session	08/04/2026		
Graphs of Sin x, Cos x and	09/04/2026		

	Tan x.			
	Class Test-2	13/04/2026		
UNIT-III	Important formulae of Differentiation	16/04/2026		
Differential Calculus	Rules for Differentiation	18/04/2026		
	Doubt Clearing Session	20/04/2026		
	Differentiation of sum, product and quotient of functions.	21/04/2026		
		22/04/2026		
		23/04/2026		
	Doubt Clearing Session	24/04/2026		
	Differentiation of sum, product and quotient of functions.	25/04/2026		
		27/04/2026		
28/04/2026				
29/04/2026				
	30/04/2026			
Doubt Clearing Session	02/05/2026			
UNIT- IV	Integration as inverse operation of differentiation	04/05/2026		
Integral Calculus	Doubt Clearing Session	05/05/2026		
	Simple integration by substitution	06/05/2026		
		07/05/2026		
	Simple integration by parts	11/05/2026		
		12/05/2026		
	House Test	13/05/2026		
		To 16/05/2026		
	Simple integration by parts	18/05/2026		
	Doubt Clearing Session	19/05/2026		
	Simple integration by partial fractions (for linear factors only).	20/05/2026		
21/05/2026				
Doubt Clearing Session	22/05/2026			
Simple integration by partial fractions (for linear factors only).	23/05/2026			
	25/05/2026			
UNIT-V	Surface area and volume of solid shapes (cube, cuboid, sphere, right circular cylinder, right circular cone).	26/05/2026		
Mensuration		27/05/2026		

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1,2	23/03/2026		
A-2	Unit-3,4	23/04/20256		
A-3	Unit-5	19/05/2026		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1,2	As per HPTSB Academic Schedule		
Class Test -2	Unit-3,4			
House Test - 1	Unit-1, Unit-2, Unit-3 and Unit-4			



(Signature of Teacher)



(Signature of HOD)

LESSON PLAN

Program Name	DIPLOMA IN ARCHI. ASSITT.
course/Subject Name	Technical Communication
Course/Subject Code	ASOE302
course/Subject Coordinator Name	Renu Patial
Course Category	Open Elective

Evaluation scheme

S.N o.	subject Name	Study Scheme (Hrs./Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Technical Communication	Th-3; DCS-1	40	--	60	--

Reference books:	1. Technical Communication- Principles and Practice by Meenakshi Raman & Sangeeta Sharma
	2. https://www.skillsyouneed.com/quiz/343479
	3. https://indeed.com/career-advice/career-development/project-management-report
	4. https://whatfix.com/blog/technical-writing-examples/

	5. https://virtualspeech.com/blog/technical-presentation
	6. Csikszentmihalyi. Flow: The psychology of Optimal Experience, Harper perennial Modern Classics
	Canfield, Jack et al. Chicken soup For the unsinkable Soul, Backlist LLC, 2012

Course Outcomes: At the end of the course students will be able to:

CO1	Adapt, accept and adjust to the physical and emotional changes in one's own self and influence others positively.
CO2	Classify the correct usage of English Grammar in writing and speaking.
CO3	Develop the various written communication strategies

CO4	Demonstrate the use of verbal and non-verbal Communication in academic and non-academic platform.
CO5	Demonstrate appropriate communication behaviour to enhance self-representation.

Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual date	Remarks
1	Unit- 1 Fundamentals of Technical Communication Introduction of the syllabus Language as tool of communication	27.01.2026		
2	Feature of communication	28.01.2026		
3	Distinction between General and Technical Communication	31.10.2026		

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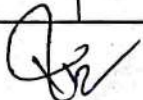
4	Channels of communication at workplace: Downward, Upward and lateral or horizontal	02.02.2026		
5	Diagonal, Grapevine, consensus	03.02.2026		
6	Barriers to communication	04.02.2026		
7	Overcoming the barriers	07.02.2026		
8	Unit-2 Technical writing Types of Technical Writing	09.02.2026		

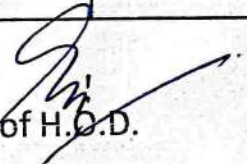
9	Drafting Skills: Agenda and minutes of meeting	10.02.2026 11.02.2026		
10	Official Correspondence	16.02.2026		
11	Business Correspondence	17.02.2026		
12	Different formats of Report writing	18.02.2026 21.02.2026		
13	Basics of Grammar: Sporting-errors In Noun , Pronoun, Verb	23.02.2026 24.02.2026		
14	Adverb, Adjective, Preposition	25.02.2026 28.02.2026		
15	Preposition ,Conjunction,	02.03.2026 03.03.2026		

30	Characteristics of good Speech	18.04.2026		
31	What is Panel Discussion	20.04.2026		
32	Procedures of panel discussion	21.04.2026		
33	Job Interview Skills: What to do before interview	22.04.2026		
34	What to do after interview	25.04.2026		
35	What to do during interview	27.04.2026		
36	Body Language	29.04.2026		
37	Examples and meaning of body language	02.05.2026		
38	Positive and negative(Gestures and Postures)	02.05.2026		
39	Body language for interview	04.05.2026		
40	Difference Between Etiquettes and manners	05.05.2026		
41	Table Etiquettes	05.05.2026		
42	Business Etiquettes	06.05.2026		
43	Telephone Etiquettes	11.05.2026		
44	Dressing Etiquettes	11.05.2026		
45	Workplace Etiquettes	12.05.2026		
46	Definition Of Voice Modulation	13.05.2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Actual date	Remarks
CT-I	30% of the syllabus		
CT-II	Next 30% of the syllabus		
House Test	80% of the syllabus		


Signature of Teacher
(RENU PATIAL)


Signature of H.O.D.

LESSON PLAN

ProgramName	DIPLOMA (Arch.Assist.)
Course/Subject Name	Environmental science
Course/SubjectCode	AU(102)
Course/SubjectCoordinatorName	Ms.Swati Bhardwaj

Evaluation scheme :

S.No.	SubjectName	Study Scheme (Hrs/Week)	Marks in evaluation scheme	
			Internal Assessment Theory	External Assessment Theory
1	Environmental Science	2hr (Th)	40	60

Reference books	(i) S.C.Sharma MP.Poonia, Environmental Studies, KhannaPublishingHouse, New Delhi.
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	(ii) Environmental Science by Dr. Deepak Arora Edited by Shweta Khurana, Eagle Prakashan
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	(iii) O.P.Gupta, Elements of Environmental Pollution Control, Khanna Publishing House, New Delhi.
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	(iv) Environmental Science By Mr. Aman Saini and Manoj Kumar, TruEdu:Publications
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Course Outcomes: After the completion of the course the student will be able to

C01	To solve various engineering problems applying ecosystem to produce eco-friendly products	Environmental Studies, KhannaPublishingHouse, New Delhi.
C02	To use relevant air and noise control methods to solve domestic and industrial problems.	(ii) Environmental Science by Dr. Deepak Arora Edited by Shweta Khurana, Eagle Prakashan
C03	To use relevant water and soil control method to solve domestic and industrial problems	(iii) O.P.Gupta, Elements of Environmental Pollution Control, Khanna Publishing House, New Delhi.
C04	To recognize relevant energy sources required for domestic and industrial applications	(iv) Environmental Science By Mr. Aman Saini and Manoj Kumar, TruEdu:Publications
C05	To Solve local solid and e-waste problems	(iv) Environmental Science By Mr. Aman Saini and Manoj Kumar, TruEdu:Publications

(Signature)

After the completion of the course the student will be able to

Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual date	Remarks
1	Unit-1 Ecosystem Structure of ecosystem, Biotic & Abiotic components Food chain and food web	29.01.2026		
2	Aquatic (Lentic and Lotic) and terrestrial ecosystem Carbon, Nitrogen, cycle	30.01.2026		
3	Sulphur, Phosphorus cycle	05.02.2026		
4	Global warming -Causes, effects, process GreenHouse Effect, Ozone depletion.	06.02.2026		
5	Unit- 2 Air and, Noise Pollution Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refrigerants, I.C., Boiler)	12.02.2026 29.01.2026		
6	Air Pollutants: Types, Particulate Pollutants: Effects	13.02.2026 30.01.2026		
7	Control, of air pollution(Bag filter, Cyclone separator, Electrostatic Precipitator).	19.02.2026 05.02.2026		
8	Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler	20.02.2026		
9	Noise pollution sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control)-Rules, 2000	26.02.2026		
10	Unit- 3 Water and Soil Pollution Sources of water pollution, Types of water pollutants,	27.02..2026 19.02.2026		
	Control of air pollution(Bag filter, Cyclone separator, Electrostatic Precipitator).			
	Gaseous Pollution Control: Absorber, Catalytic Converter Effects of air pollution due to Refrigerants, I.C., Boiler	20.02.2026		
	Noise pollution sources of	26.02.2026		

11	Characteristics of water pollutants Turbidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation	05.03..2026		
12	WasteWater Treatment: Primary methods: sedimentation, froth floatation	06.03.2026		
13	CLASS TEST - I	12.03.2026		
14	Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor,	13.03.2026		
15	Tertiary Method: Membrane separation technology, RO (reverse osmosis).	19.03.2026		
16	Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste	20.03.2026		
17	Unit - 4 Renewable sources of Energy Solar Energy: Basics of Solar energy: Flat plate collector (Liquid & Air). Theory of flat plate collector. Importance of coating. Advanced collector	27.03.2026		
18	Solar pond. Solar water heater, solar dryer. Solar stills.	02.04.2026		
19	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas	09.04.2026		
20	CLASS TEST - II Solar Energy: Basics of Solar	10.04.2026		
21	Wind energy: Current status and future prospects of a wind energy. Wind energy generating in India. Environmental benefits and the problem of wind energy.	16.04.2026		
	Solar dryer. Solar stills.	02.04.2026		
	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization	09.04.2026		

22	New Energy Sources: Need of new sources. Different types of new energy sources, Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion)	17.04.2026		
23	Concept, origin and power plants of geothermal energy.	23.04.2026		
24	Unit-5 Solid Waste Management, ISO 14000 & Environmental Management Solid waste generation- Sources and characteristics of : Municipal solid waste, E- waste, bio- medical waste. Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries	24.04.2026		
25	Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous.	30.04.2026		
26	Waste Air quality act 2004, air pollution control act 1981 and water pollution and control act 1996	07.05.2026		
27	Structure and role of Central and state pollution control board, Concept of Carbon Credit, Carbon Footprint	08.05.2026		
28	Environmental management in the fabrication industry. ISO 14000: Implementation in industries, Benefits.	22.05.2026		
29	Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous.	30.04.2026		
30	Waste Air quality act 2004, air pollution control act 1981 and water pollution and control act 1996	07.05.2026		
31	Structure and role of Central and state pollution control board, Concept of Carbon Credit, Carbon Footprint	08.05.2026		
32	Environmental management in the fabrication industry. ISO 14000: Implementation in industries	22.05.2026		

LESSON PLAN

Program Name	DIPLOMA (Architecture Assistantship.)
Course/Subject Name	Computer Application in Architecture
Course/Subject Code	ARPC-2006
Course/Subject Coordinator Name	Shilpa

Evaluation scheme

S.No.	Subject Name	Study Scheme Hours/week	Marks in evaluation scheme	
			Internal Assessment	External Assessment
1.	Computer Application in Architecture	4	40	60
Reference books			- Fundamentals of Computer by V Rajaraman	
			- Information Technology for Management by Henery Lucas	
			- Computers Fundamentals Architecture and Organisation	
			- Fundamentals of Information Technology Vipan Arora Eagle Parkashan	

Course Outcomes:

After the completion of the course the students will be able to comfortably work on computers, install and configure operating systems, assemble a PC and connect it to various external devices, create documents, create worksheets, prepare presentations, protect information and computers from basic abuses/attacks.

Lab Plan:

Pract. No.	Name of Practical	Proposed date	Actual date	Remarks
1	Given a PC, name its various components and peripherals. List their functions	29-01-2026		
1	Continue	02-02-2026		
2	Installing various components of computer system and installing system software and application software.	05-02-2026 09-02-2026		
2	Continue	12-02-2026		
3	Installation of I/O devices, printers and installation of operating system viz Windows/BOSS/LINUX	16-02-2026 19-02-2026		
3	Continue	23-02-2026		
4	Features of Windows as an operating system Start. <input type="checkbox"/> Shut down and restore. <input type="checkbox"/> Creating and operating on the icons. <input type="checkbox"/> Opening, closing and sizing the windows and working with windows interfacing elements (option buttons, checkbox, scroll etc.).	26-02-2026 02-03-2026		
4	Using elementary job commands like – creating, saving, modifying, renaming, finding and deleting a file and folders. <input type="checkbox"/> Changing settings like, date, time, color (back ground and fore ground etc.). <input type="checkbox"/> Using short cuts. <input type="checkbox"/> Using on line help	05-03-2026		
5	Word Processing (MS Office/Open Office) File Management: <input type="checkbox"/> Opening, creating and saving a document, locating files, copying contents	09-03-2026 12-03-2026 16-03-2026		


	<p>in some different file(s), protecting files, giving password protection for a file</p> <p>b. Page set up <input type="checkbox"/> Setting margins, tab setting, ruler, indenting</p> <p>c. Editing a document: <input type="checkbox"/> Entering text, cut, copy, paste using tool-bars</p>			
5	<p>Using different fonts, changing font size and colour, changing the appearance through bold/italic/underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods.</p> <p><input type="checkbox"/> Aligning of text in a document, justification of document, inserting bullets and numbering. 50</p> <p><input type="checkbox"/> Formatting paragraph, inserting page breaks and column breaks, line spacing</p>	19-03-2026 23-03-2026		
5	<p>Use of headers, footers: Inserting footnote, end note, use of comments, auto text.</p> <p><input type="checkbox"/> Inserting date, time, special symbols, importing graphic images, drawing tools.</p>	30-03-2026		
5	<p>Tables and Borders: <input type="checkbox"/> Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, and partition of cells, inserting and deleting a row in a table.</p> <p><input type="checkbox"/> Print preview, zoom, page set up, printing options.</p> <p><input type="checkbox"/> Using find, replace options</p>	02-04-2026 06-04-2026		
6	Spread Sheet Processing (MS Office/Open	13-04-2026		

	<p>Office) Starting excel, open worksheet, enter, edit, data, formulae to calculate values, format data, save worksheet, switching between different spread sheets</p> <p>b. Menu commands:</p> <p>□ Create, format charts, organize, manage data, solving problem by analyzing data. Programming with Excel Work Sheet, getting information while working</p>			
6	<p>Work books:</p> <p>□ Managing workbooks (create, open, close, save), working in work books, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations</p> <p>□ Editing a worksheet, copying, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet, conditional formatting.</p>	16-04-2026 20-04-2026		
6	<p>Creating a chart:</p> <p>□ Working with chart types, changing data in chart, formatting a chart, use chart to analyze data.</p> <p>□ Using a list to organize data, sorting and filtering data in list.</p>	23-04-2026		
6	<p>Retrieve data with query:</p> <p>□ Create a pivot table, customizing a pivot table. Statistical analysis of data.</p> <p>f. Exchange data with other application:</p> <p>□ Embedding objects, linking to other applications, import, export document.</p>	27-04-2026		

7	<p>Power Point Presentation (MS Office/Open Office)</p> <p>a. Introduction to PowerPoint</p> <ul style="list-style-type: none"> □ How to start PowerPoint □ Working environment: concept of toolbars, slide layout & templates. □ Opening a new/existing presentation □ Different views for viewing slides in a presentation: normal, slide sorter 	30-04-2026		
7	<p>Power Point Presentation (MS Office/Open Office)</p> <p>a. Introduction to PowerPoint</p> <ul style="list-style-type: none"> □ How to start PowerPoint □ Working environment: concept of toolbars, slide layout & templates. □ Opening a new/existing presentation □ Different views for viewing slides in a presentation: normal, slide 	04-05-2026		
7	<p>Formatting slides</p> <ul style="list-style-type: none"> □ Using slide master □ Text formatting □ Changing slide layout □ Changing slide color scheme □ Changing background □ Applying design template 	07-05-2026		
7	<p>How to view the slide show?</p> <ul style="list-style-type: none"> □ Viewing the presentation using slide navigator □ Slide transition □ Animation effects, timing, order etc. 	11-05-2026		
8	<p>Internet and its Applications</p> <p>a. Establishing an internet connection.</p>	14-05-2026		

	b. Browsing and down loading of information from internet.			
8	c. Sending and receiving e-mail <input type="checkbox"/> Creating a message <input type="checkbox"/> Creating an address book <input type="checkbox"/> Attaching a file with e-mail message <input type="checkbox"/> Receiving a message <input type="checkbox"/> Deleting a message d. Assigning IP Addresses to computers and use of domain names.	18-05-2026		
9	Functioning of Antivirus <input type="checkbox"/> Installation and updatation of an antivirus. <input type="checkbox"/> How to scan and remove the virus.	21-05-2026		
10	To remove temporary files	25-05-2026		


 (Signature of Teacher)


 (Signature of HOD)