HUMAN SETTLEMENT PLANNING

Course: Diploma in Architecture.
Course code:-ARCH.
Semester:-VI
Subject:- Human Settlement Planning.
Subject code:-AR601.

Teaching& Examination scheme.

Total Period	Period/week	Examination duration in hours	IA.	End Exam	Total
45	3	2 hours.	10	40	50

Rationale: Students will gather requisite knowledge about the macro environment in which architecture plays its role. The types of human settlement and its characteristics in the planning process will be the domain of knowledge.

Objectives: Students will be able to develop the understanding of the basic of town planning and urban rural interdependency.

Topic wise distribution of periods:-

S.l No.	**Topic**	**Periods.**
1.	Urban – Rural	05
2.	The Master Plan	10
3.	Survey	05
4.	Zoning	05
5.	Housing	05
6.	Traffic and transport system	05
7.	Bhubaneswar Master Plan	05
	Total:-	**45**

Course Content:

1.0 Introduction to town planning its scopes and objectives.
1.1 Discuss about Urban Rural Characteristics and Inter relationship.
2.0 State and explain the master plan-Why a comprehensive plan is needed. Its objective and preparation.
3.0 State and explain survey-its type. How survey helps in preparing Master plan.
1.0 State and explain Zoning regulation.
2.0 State and explain Housing and Neighborhood units, commercial centers, land for Industries.
3.0 Discuss neatly about the traffic and transport system in towns and cities.
4.0 Appraise the Master plan of Bhubaneswar.

Recommended book:

Town Planning by Rangawalla.

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PROFESSIONAL TRAINING

Course: Diploma in Architecture.
Course code:- ARCH.
Semester:-VI
Subject:- Professional Training.
Subject code:- AR602.

Teaching & Examination scheme.

Total Period	Period/week	Examination Duration in hours	Sessional	End Exam	Total
315(2months)	21		100	100	200

Rationale:

The taste of real life situation in the world of work is required in the student life mentally preparing him of her for the world of work.

Objective:

After completion of the training students will be able to behave in a matured manner and they will prepare them for the world of work. They will attach importance to the subject which is being applied in the work situations.

Procedure:

Students will be sent for two month in the industry (arrangement has to be made by HOD/tainting superintended of the institute) .Students will collect data and study about an ongoing live project of the office, will visit the construction site and will take photographs. They also require collecting data, site plan and conducting case study for their final project. At the end of the training they will face a jury for the final grand Viva-voice.

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PROJECT

Course: Diploma in Architecture.
Course code:-ARCH.
Semester:-VI
Subject:- Project
Subject code:-AR603

Teaching& Examination scheme.

Total Period	Period/week	Examination Duration in hours	Sessional	End Exam	Total
150	10		300	100	400

Rationale: The entire previous knowledge and skill of the knowledge is exhibited in a comprehensive manner in this project work.
This is the real assessment of knowledge, skill and ability of the students, passing out diploma in architecture.

Objective:

1.0 The students will be able to expose themselves to a real life design problem.
2.0 The students will be to prepare the comprehensive design/ drawing/ report/ model of a live project.

Topic wise distribution of periods:

S.l No.	**Topics**	**Periods.**
1.0	Project methodology	50
2.0	Final preparation	100
	Total:-	**150**

1.0 Project methodology

- Site analysis (to be done during professional traing)
- Data collection (to be done during professional traing)
- Area statement
- Design approach and concept
- Plan and project formulation
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3.0 Final preparation

- Thesis report
- Site plan
- All plans
- Elevations
- Sections
- Model

NB:- The student has to select a live topic from their office where they are taking professional training in consultation with the internal guide .They have to finish the site selection ,site analysis , case study & data collection during their two months professional training

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DIGITAL PHOTOGRAPHY & VIDEOGRAPHY
(Elective)

Course: Diploma in Architecture.
Course code:-ARCH.
Semester:-IV
Subject :- Digital Photography & Videography.
Subject code:-AR604.

Teaching& Examination scheme.

Total Period	Period:/week	Examination Duration in hours.	Sessional.	End Exam	Total
75	5	50	50		100

Rationale: The students will learn to take digital photographs and videographs and edit using softwares.

Objectives: The students will learn softwares like Photoshops and Premiere which are very essential tool in the offices of architects.

Topic wise distribution of periods:-

S.l No.	**Topic**	**Periods.**
1.0	Digital Photography (Photoshop)	25
2.0	Digital Photography (Project)	10
3.0	Videography (Premiere)	25
4.0	Videography (Project)	15
	Total	**75**

1.0Digital Photography

Photoshop

Using tools
Defining colors
Use of brushes
Retouching
Masking
Selections and paths
Filters
Working with layers
Shapes and styles
Editable text
Color management

The students shall take snap by digital camera and they shall edit the same to improve picture quality.

2.0 Digital Photography (Project)

Videography

3.0 Videography (Premiere)

2.1.1 Introduction to video streaming/ editing
2.1.2 Starting with premiere pro
2.1.3 Capturing clips and using tools
2.1.4Video Editing

2.1.5 Working with Audio
2.1.6 Super imposing and compositing
2.1.7 Animating clips, applying effects and exporting
2.1.8 The students shall take snap by digital video camera and they shall edit the same to give a best possible composition with sound.

4.0 Videography (Project)

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REMOTE SENSING & GIS
(Elective)

Course: Diploma in Architecture.
Course code:-ARCH.
Semester:-V
Subject:- **Remote Sensing & GIS.**
Subject code:-AR604.

Teaching & Examination scheme.

Total Period	Period /week	Examination duration in hours	Sessional	End Exam	Total
75	5		50	50	100

Topic wise distribution of periods:-

S.l No.	Topic	Periods.
A.	Remote Sensing	40
B.	GIS	35

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A. REMOTE SENSING

1. Definition & Concept of Remote sensing
2. Physics of remote sensing ----- electro magnetic radiation , Radiation Law Electro magnetic spectrum, Relation between wave length & frequency, Visible spectrum , Infrared micro waves Interaction of earth features with EMR
3. Aerial photography – scale of aerial photographs Height measurements, concept of stereo photography, concept of photogrametry
4. Different platform used in remote sensing.
5. Different Sensors used in satellite remote sensing and working concept of sensor.
6. Details of Remote sensing satellites---IRS series land sat , spot, Envisat , Quick Bird, IKONS, ORBVIEW, Geoeye, etc.
7. Digital characteristics of satellite image, concepts of spectral, spatial, Radio metric & Temporal Resolution
8. Digital image processing (D I P) Geometric correction of satellite image.
9. D I P—Enhancement technique of satellite image.
10. D I P –Unsupervised & supervised classification.
11. Fundamental concept of land features mapping from satellite image of different Resolution.

GEOGRAPHIC INFORMATION SYSTEM:

1. Definition and concept of GIS.
2. Concept of Database Management System, example of spatial and Attribute.
3. Concept & comparison between vector and raster data, raster/ vector conversion.
4. Basic features in spatial database generation—point, arc, (line) node & polygon, topology.
5. Concept of coverage, shape files and eoo files.
6. Digitization method, weed tolerance, node snap, arc snap fuzzy tolerance, tic matching.

7. Identification of errors – under shoot, over shoot, intersection errors, missing or multiple label points in polygons etc.
8. Joining of spatial and attribute data .
9. Spatial analysis—Boolean operation ,clipping , intersection, buffer analysis .
10. Surface modeling—contour/lattice generation, T I N formation, slop/ aspect determination, cross section / profile generation etc.
11. Attribute Editing ---1 lecture.
12. Use of GIS in surface features and real world database linking & modeling with respect to survey & mapping.

GLOBAL POSITIONING SYSTEM (G P S)

1. Need of GPS based surveys and introduction to GPS

2. Earth Coordinate System: concept of latitude & longitude, fundamental of projection system, definition of datum
3. Concept and working of GIS

4. Sources of errors in GPS observation

. 5. Current & Future satellite based Navigation system

6. Concept and working of differential GPS

PRACTICAL

1. Scale determination of Aerial photography using (i) ground distance (ii) maps (iii) focal length / height formula.

2. Height measurement technique for A P.

3. Loading and display, changing of band combination & contrast of multiaspectral satellite image.
4. Image rectification with respect to existing Ground Control Points and existing maps.
5. Enhancement of satellite image and features (like road, river, bridge, etc) extraction from satellite image.
6. Creation of new shape files of any project area/ Digitization of features using points, lines, and polygons.
7. Attribute Database generation in D B F/ M S Access format.
8. Linking of spatial and Attribute database.
9. Contour map digitization and DEM /slope generation.
10. Map composition& statistics generation.