

# Summary Report

## **About Department/Center/School:**

In the year 1952, under the leadership of Professor E. Braner, a group of ten students formed the nucleus of this department. Soon it developed into a full-fledged undergraduate programme also offering post-graduate courses in 1956, for the first time, in the country. The Institute of Town Planners had also its beginning in this department. With time, pioneering attempts were made to start advance training in Building Science, Application of Computer Techniques in Architectural design Simulation, Presentation Graphics and Construction Technology. The consultancy activities of the department range from government and large corporate clients in the country ranging from design of large townships, institutions, landscaped environmental planning to conservation of heritage sites and buildings.

### **1. Academic Programs ( Range of Degrees and Disciplines):**

B.Arch.(Architecture), M.C.P.(City Planning), PhD(Architecture & City Planning)

### **2. Major 4-5 Thrust Areas of Research:**

Some of the key areas of research include Architectural Design, Housing and Community Planning, Urban Planning, Transportation Planning and Traffic Engineering, Urban Design, Environmental Design, Infrastructure Planning and Systems Management, Metropolitan Planning, Heritage Studies and Conservation, Industrial Design, Sustainable Development and Green Architecture, Universal Design, Building Technology and Management, Visual and Graphic Design, Computer Applications in Architecture and Planning, GIS and Multimedia Applications.

### **3. Curriculum and Courses & Teaching Environment**

Items	Ratio/ Number	Items	Number/%
Teacher-student Ratio	15.73	Average No. of students motivated (%) to opt of careers Eng/ Tech. Sectors UG/PG/PhD	75 /90/100
No. of Faculty members as on today	19	Average No. of students motivated (%) to opt of careers in Science sectors UG/PG/PhD	0/0/0
Average No. of Tutorial Assistants	35	No. of teaching labs	12
No. of UG/DD students	204	Average No. of students per experiments in core courses	5 for labs / individual for design
No. of PG students/PhD students	65 /30	No. of Students' workshops/`Tinkering'' Labs	7 (tinkering design studio)
Average no. of tutors with more than 100 students	2	No. of new courses introduced	5
Average Students placements (%)	78 % /	No. of New program introduced	Nil

(UG/DD/PG)	35%		
No of major curriculum review in both UG & PG level	Every 5 yrs	Undergraduate Vs PhD strength expressed as Percentage	15 %
No of UG lab (teaching labs) developed/set-ups	10	No of PG/research labs developed/new set up	3
No of E class rooms	6	No. of lab classes per week	<b>12</b>
Average No. of Course done per student for B. Tech/DD/M. Tech/Ph.D	74/18/4	No. of core/elective/seminar/projects subjects taken for B. Tech, DD, and M. Tech respectively	UG = 65/6/1/2 PG = 8/6/2/2

#### 4. Research and Development & its Environment

Items	Number	Items	Number	Items	No.
Total No. of Publications in Journals (2008-13)	66	Average no. of citation per paper	Not known	No of large interdisciplinary research projects	Nil
Total No. of Publications in Conference & Symposium	108	Average Journal publication per year	13	Number of Int. conf./workshops attended by students	10
Total No of Books & e-books published	6	h-Index of the department since 2008/overall h-index in Scopus	Not known	No. of PDF hired in the Institute	Nil
Total No of Edited Conference Proceedings/book chapters		Number of papers with citation more that the average no. of citation of the Journals	Not known	No. of international Students as PhDs/PDFs	Nil
Total No. of Technology Developed/transferred	0	No. of recognitions & Awards, fellows etc to faculty/students (provide break up if necessary)	5/5	No. of International visiting researchers/adjunct faculty stayed here for at least a week	Adjunct faculty = 10
Total No. of Patents Filed/Obtained	0	Average Retention(%) of Young faculty for at least 10 years	90%	No. of short courses/workshops /conf. organized with international participations	2/5/1
Total No. of Copyright Filed/Obtained	0	No. of Sponsored research Project /fund(lakh) generated from non-internal source	12 / 174	Average No. of PhD granted per year	4
No. of Publications per Faculty/Masters/PhD students	Faculty (3.5) PhD ( 2)	No. of Consultancy /fund (lakh) generated from non-internal source	23 / 903	Average No. of PhD Granted per year per faculty	0.2
No. of Publications per Faculty/Masters/PhD	Faculty	No of Internal and external Collaborations	Not known	Patent granted per faculty	0

students in Top Ten Journals as Identified by the department	(3.5) PhD ( 2)	research papers/research projects/PhD students			
Average No. of Citation per faculty per year	Not known	No of M. Tech students motivated into pursuing PhD/PhD graduates motivated to pursue career in Academics(abroad or IIT etc)	30 / 10	Number of articles in collaborations with Ten countries*	Not known
Ranking of the department in terms of average citations per paper within the Institute	Not known	Ranking of the department in terms of total number of Journal publications within the Institute/publications per faculty	Not known	No of articles of the dept. contributing towards h-index of the Institute since 2008	Not known

#### 5. External Stakeholder Engagement and others

Items	Number	Amount Lakh
No. of PhD/Master students' thesis funded by Industries	2 / 3	
Total number of Industry sponsored projects and its income (Lakh)	23	903
No. of Curriculum Development Initiative for Industries	Nil	
No of Technology transfer/adopted by Industry/Labs	NA	
No. of Nationally relevant research projects	10	
No of Policy inputs/consultancies provided	4	
No. of Research grant and seed money from internal savings of the Institute per young faculty of the department and its total fund	5	
No. of Community Relevant projects	5	

#### 6. Vision for the Future (in brief):

**(a) Departments/centers/schools should spell out its Mission and Vision Statements, (b) Plans for future to achieve the projected goals and (c) measures adopted towards above.**

##### Mission and Vision Statements

- To impart technology-intensive and holistic architecture and urban planning education
- To produce globally competent professionals, contributing meaningfully to society
- The education aims to equip architecture & urban planning students with the knowledge for creating sustainable built environment that is responsive to the changing needs and aspirations of society
- The Urban Planners are trained through course work, workshops and research, to address the social and urban infrastructure issues.

##### Plans for future to achieve the projected goals

To initiate a P G level program on Urban Design that will disseminate technology-intensive and holistic education on urban redevelopment and greenfield growth.

## Measures adopted towards above

We continuously monitor and update our courses based on current technological needs, practice procedures and both B.Arch. and MCP students of IIT Kharagpur are considered competent professionals. The review mechanism takes into account suggestions of Council of Architecture and architecture & planning professionals.

### 7. External peer review of the Dept./centre/schools (in brief):

(a) **Date of the peer review:** October, 2012

(b) **Name of the Experts involved and their affiliations in short:**

- i. Prof. Kul Bhushan Jain, Sr. Professor of CEPT, Ahmadabad
- ii. Prof. Suresh Mankar, Director, College of Architecture, Navi Mumbai.

(c) **Measures adopted/action taken at the department level to address the recommendations of the peer review report:**

The Committee observed good efforts are made to accomplish the missions of “imparting comprehensive architectural education (technical and aesthetics) to the students such that they become leaders in the profession and contribute meaningfully to the society.

The physical facilities and the human resources are good and working towards the mission:

- i. The committee was satisfied with introduction of innovative design problem and external experts.
- ii. Inter – institutional interaction have also been encouraged and more of study tours (short and long duration) have been formalized.
- iii. The committee expressed high satisfaction on the research and publication of the faculty. The department is continuously encouraging and facilitating the faculty members to engage in quality research and publication.

### 8. Strengths, Weaknesses, Opportunities & Threats (SWOT) Analysis of the Department

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"><li>• Quality of Programmes (Under-Graduates/Post-Graduates): Both these courses are professional courses with strong professional linkages and research bias.</li><li>• Scope for interdisciplinary research and teaching</li></ul> <p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"><li>• Low teacher student ratio</li><li>• Inadequate laboratory spaces</li><li>• Lack of space design studios</li><li>• Locational disadvantage for attracting eminent professionals for interaction</li><li>• Need for flexibility of institute’s rule to</li></ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"><li>• Scope for involving the UG and PG students in real life consultancy projects – as a part of their curriculum.</li><li>• Scope for involving UG / Pg students in pure architectural / planning research.</li></ul> <p><b>THREATS</b></p> <ul style="list-style-type: none"><li>• Lack of interest and interaction from the industry in developing and collaborating in pure research</li><li>• Increasing student strength would require more faculty members for better interaction especially in design studios</li></ul>
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facilitate travel by air for the experts particularly for UG and PG students.	
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**9. Additional Information, if any**

Our faculty and students have been recognized through winning of laurels and awards in national and international forum.

**\*Note: Ten countries: US, UK, Germany, Japan, Canada, France, Italy, Australia, Singapore, South Korea ( optional :China may be replaced with anyone if department wants)**

**Important Highlights**

**Uniqueness of the Department**

On the whole, the Department of architecture and regional planning, IIT Kharagpur equips the students to start with the basics; so that they reach a stunning resume and a statement of purpose that capture interests, skills, and accomplishments. The Faculty Team at this Department engages the students and scholars in both the architecture and planning systems of the city and the region. Being a part of ARP, IIT Kharagpur, students soon become involved with regional systems encompassing both urban and rural environments, their citizens and leaders, and the challenges they face to produce the best of architectural masterpieces to holistic designs of urban design-scapes; and organic and ecologic town and country planning.

The Architecture programme in this department is geared to impart comprehensive architectural education and produce professional leaders contributing meaningfully to society. The students are exposed to various courses to strengthen their technical as well as aesthetic senses like climatology, acoustics, building material, architectural lighting, structural analysis, history of architecture in both ancient and modern times, real estate, construction project management graphics and visual communication et – cetera. The programme also ensures that these theory subjects are linked to the practical design problem they take up in every semester where the students get a chance to apply the theoretical knowledge acquired in these courses to a realistic design problem.

The Urban planning programme of this department is well established and renowned in India and abroad. Challenging urban issues, intricate transportation problems, infrastructure complicacies are handled with very advanced planning methodologies. Keeping itself updated with the national trend and the national needs during last fifty years, the urban and regional planning specialization has concentrated on urban infrastructure – service delivery and management: resource management. Urban institution governing models, finance and capacity buildings, urban land management, regional development strategies, transport studies relating to service quality and freight management. The students are exposed to the emerging tools of data analysis, 2 – D and 3 – D visualization, user –friendly interfaces. To match these challenges of the profession, the students are required to undergo summer internship for professional exposure

**Studio spaces**

ARP's studio spaces are well designed for undergraduate architecture students. The majority of the studio space is fashioned in an open plan, with plenty of daylight filtering through the cascades of continuous fenestration that features the ARP premises. Every architecture students who is enrolled in design studio are provided with studio space, as well as drawer or locker space. The state of the art meeting rooms and special lecture rooms are centrally located in the ARP premises surrounding a well built atrium which is used as a lively informal presentation space, equipped with panels that occasionally open to reveal pin-up walls in the out to LCD screens for digital presentations in the main gallery spaces.

### **Auxiliary studio spaces**

Spacious drawing and painting studios are evident in ARP to offer best of flexible environments for a wide variety of work and media that has both the western and Indian attributes. The undergraduate B. Arch program has focuses on new media in industrial and visual design, urban art based painting, digital photography, application of print media that covers the annual release of a Journal named Sthapati, and making of innovative green sculpture that fashion the ARP atrium space from time to time. In ARP, our students receive the best of training in safe and efficient use of all design facilities, and the central and departmental instructional support staff offer assistance and ensure that students adhere to safe and best practices.



### **Special Galleries and Exhibition Opportunities**

ARP has exquisite gallery and exhibition opportunities which have a large colonnaded atrium taking advantage of natural light. Round the year, the gallery features work by the department's students and faculty.

The rows of flexible gallery in the ARP have centralized atrium features work which aims to support pedagogy in the department. Exhibitions are often mounted by faculty or students, containing work produced in the department or professionally. Between scheduled exhibits, the atrium space is also available to regular classes to pin up work for review or display on either a strict formal jury or an informal review basis.



### **Computer Support and Service**

ARP's Computer Labs offer a whole range of services from printing to scanning; from documentation to rendering; and from software collection to the best of desktop preparedness in architecture, city and regional planning systems. Our software range from Auto Desk suites, Adobe CS systems, Microsoft 2010/11, Windows, Arc GIS systems and a whole range of visual, graphics, design and urban simulation software.

### **Training, Internships and Jobs**

As per the UG programme, students are compulsorily required to undergo internship in leading professional offices and institutes in India and abroad. Our PG programmer quires compulsory summer internship at the end of the 1<sup>st</sup> year to acquire professional exposure and experience in urban and regional planning. In this process, the department develops a good academic – industry interrelationship.

The department has dedicated faculty that offer career counseling and advising, access to workshops and symposium and national and international design competitions on a wide range of topics such as interview skills, and invitations to job exposition and international groundings.

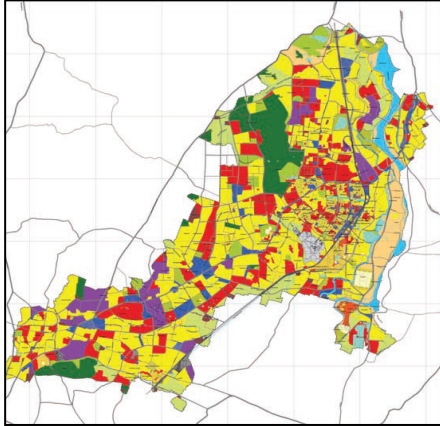
### **Alumni involvement**

The Department has over a period of 60 years or more produced an incredible network of Alumni who are well established in their fields in different parts of the world – in academia, in research, in profession, or in business promotion platforms. Alumni of ARP, IIT are often invited to

volunteer their expertise by advising students engaged in career exploration and also support a student in an experiential learning program.

### **Consultancy and professional input**

This department is nationally famous for its contribution to the profession by involving into large number of architectural and planning real life projects and successfully delivered and executed a large number of projects.



In summary it may be said that the ARP Department trains students in logical and systematic thinking and cutting-edge wisdom to the problems and challenges of the natural and built environment. From its foundations in traditional Indian design and planning systems, the department has a key and central concern to include modern and flexible social policy, advanced transportation techniques, inclusive housing systems, economic development based on livability missions, ecologic urban design, application of information technologies in urban and regional governance and decision support systems, and a targeted holism interlinking the built and natural environments of architecture and planning in India.