

# Chapter 1

## Preamble and Design Based Data

### 1. Introduction

National Institute of Technology Patna is the 18th Institute among NITs created by the Ministry of Human Resources Department, Government of India, New Delhi, after rechristening the erstwhile Bihar College of Engineering, Patna on 28th January 2004. Presently NIT Patna has under graduate B Tech and B Arch. Programs in 07 departments namely:

1. Civil Engineering,
2. Mechanical Engineering,
3. Electrical engineering,
4. Electronics and Communication Engg.
5. Computer Science & Engineering
6. Information Technology.
7. Bachelor of Architecture (B Arch.)

Before the creation of NIT Patna, Bihar College of Engineering had post-Graduate programs in three departments namely Civil, Mechanical and Electrical Engineering with different specializations. Presently this institute has post-graduate programs with various specializations in all the seven departments. Now research programs have also been started in all the departments of engineering, architecture and also in physics, chemistry, mathematics, humanities and social sciences. The integrated Ph.D. program, recently approved by Senate and BOG NIT Patna, will be started from the academic session 2013-14. NITs are being planned as the center of excellence and are trying their best to achieve this objective.

The present campus of NIT Patna is situated on the bank of holy river Ganga having approximately 35 Acres of Land. The infra-structure available in this campus is limited and hence it is being difficult to impart quality education to the students. The institute is not in a position to open new courses, which are essentially required for the society. To overcome the said constraints the Institute has planned to create additional campus in the 100 Acres of Land allotted by Government of Bihar at Bihta, Patna. For developing the new campus of NIT Patna at Bihta, the institute intends to appoint reputed and experienced Architects/ Firms/ Consultants. The intending Architectural consultants will visit the proposed new site for the NIT Patna Campus at Bihar to have an overview of site and other related aspects for comprehensive planning and development of the campus.

### 2. Design Based Data

It is proposed to appoint an Architect who will work in- tandem with NIT Patna for evolving the Master plan as well as for complete planning and designing work of the new campus. Scope of work includes “Providing Architectural and Detailed Engineering Services for development of Campus i.e. preparing Master Plan, detailed building plans, detailed design of structures and services, site development, landscape design, preparing drawings, making estimates, providing specifications and obtaining approvals from NIT Patna as well as Local/ Statutory authorities (if required). The engagement/ selection of Architect will be done based on Quality and Cost based Selection (QCBS) process described in subsequent paras.

**Total built up area for NIT Patna at the proposed site for the new campus will be approximately 6,00,000 sqm.**

The Architects/Firms/Consultants may consider the following data for the purpose of planning and designing the Proposed New Campus in the 100 Acres of land available at Bihita, Patna. The development of campus will be taken up in a phased manner depending upon the priority of the Institute found available. It will be an energy efficient green campus, where non-conventional sources of energy, water recycling and rain water harvesting shall be essential feature.

Type of Building	Sl. No.	Name of the proposed buildings for UG+PG +PhD + RF students and faculty	Requirement for	per unit area required in sqm	No. of blocks	Approx. Built-up Area* required in sq m	Remarks
Academic Blocks	1	School of Electrical & Computer Engineering	3220 students	10	1	32200	
	2	School of Mechanical Engineering	2310 students	10	1	23100	
	3	School Civil Engineering	840 students	10	1	8400	
	4	School of Architecture and Planning	660 students	10	1	6600	
	5	School of Chemical Engineering	1530 students	10	1	15300	
	6	School of Basic Sciences & Applied Sciences	330 students	10	1	3300	
	7	School of Management, Humanities and Distant education	150 students	13	1	1950	
	8	Teaching Complex ( <b>It may be more than one block</b> )	For 9000 students	8	1	72000	
Administrative Block	1	Offices for Director, Deans, Registrar, other officers etc. <b>and their offices</b>	For 9000 students (Director-1, Dy. Director-1, Registrar-1, Deans-5, other officers-73)	1	1	9000	
Hostel Blocks	1	Boys Hostel, <b>single seated rooms</b> with all other facilities	<b>800</b> rooms	15	2	24000	
	2	Boys Hostel, <b>double seated rooms</b> with all other facilities	<b>400</b> rooms	22.5	6	54000	

	3	Girls Hostel-s ( <b>single seated rooms</b> with all other facilities	<b>800</b> rooms	15	1	12000	
	4	Girls Hostels <b>double seated rooms</b> with all other facilities	<b>400</b> rooms	22.5	3	27000	
	5	Bachelor Hostel with all other facilities	<b>300</b> suits	30	1	9000	
Student Activities Center	1	To accommodate all indoor student's activities	9000 students	1	1	9000	
Residential Blocks	1	Director Bungalow	Duplex	300	1	300	
	2	Dy. Director Bungalow	Duplex	300	1	300	
	3	Professor, Associate Professor, Quarter (Multistoried) (capacity of <b>60 flats</b> in each block)	60 flats	240	5	72000	
	4	Assistant Professor Quarter (Multistoried) (capacity of <b>60 flats</b> in each block)	60 flats	150	7	63000	
	5	Other officers Grade Quarter (Multistoried) (capacity of <b>40 flats</b> in each block)	40 flats	150	2	12000	
	6	Technical and Ministerial higher Grade Quarter (Multistoried) (capacity of <b>60 flats</b> in each block)	60 flats	120	5	36000	
	7	Technical and Ministerial lower Grade Quarter (Multistoried) (capacity of <b>60 flats</b> in each block)	60 flats	90	6	32400	
	8	Supporting Staff Quarter (Multistoried) (capacity of <b>60 flats</b> in each block)	60 flats	75	2	9000	
Hospital building	1	<b>50 bedded</b> multi-specialty Hospital building	50 bedded	100	1	5000	
School Building	1	Up to <b>+2 level</b> for imparting education for 1920 students (60 students in each class)	1920 students	13	1	24960	

Library Building and Computation center	1	International level Library for imparting technical education to <b>9000 students.</b>	9000 students	0.75	1	6750	
Shopping Complex having mall concept	1	For a colony having population more than <b>17000.</b>	More than 17000 population	0.5	1	8500	
Convention Center cum Innovation Centre	1	Consisting of Auditorium (capacity 3000 seat) Conference halls, Bank etc.	9000 students	1.25	1	11250	
Guest House	1	Category 1: for <b>30 rooms (Deluxe)</b>	30 rooms	30	2	1800	
	2	Category 2: for <b>60 rooms</b>	60 rooms	22.5	2	2700	
Canteen & stationary cum cafe	1	Canteen for 500 students – 8 Kiosk – 10 stationary cum cafe at different places	500 students 100 persons	1	8 10	4000 1000	
Total Area to be constructed in sq m			<b>597810</b>		<b>Say</b>	<b>600000</b>	

**\* Tentative built up areas have been mentioned. Ministry of Urban Development (Govt. of India) Guidelines regarding construction of Government accommodation/AICTE norms/ UGC norms whichever is applicable needs to be kept in mind while making Architectural Design for above buildings for the new campus of NIT Patna at Bihta.**

In addition to above, the campus will be fully equipped with

- i. Electrical sub-station.
  - ii. Water Supply and sanitation.
  - iii. Water treatment plant.
  - iv. Fire Fighting and Fire Alarm System.
  - v. Sufficient common parking areas in different zones.
  - vi. Gardens.
  - vii. Extra-curricular activities - space for football, cricket, hockey, basketball, Lawn tennis playgrounds etc.
  - viii. Swimming pool.
  - ix. Open theater.
  - x. Community centre with light truss cover at least two.
  - xi. Sewerage Treatment Plant
  - xii. **Lake (which will also serve the purpose of rainwater harvesting and ground water recharge)**
- Etc ..

## Chapter 2

### 2.1 Procedure for obtaining Bid documents

- i. The bid document for the appointment of Architectural Consultant for the new campus of NIT Patna at Bihta can be downloaded from NIT Patna website [www.nitp.ac.in](http://www.nitp.ac.in) The bidder shall deposit the cost of bid document along with submission of the other requisite documents, failing which his bid shall not be considered. The cost of bid documents is Rs. **5000/- (five thousand) only** which shall be deposited in the form of demand draft/ pay order (in favor of NIT Patna) and submitted in the envelope which will also contain Earnest Money Deposit (EMD). The bidders are advised not to make any corrections, additions, alterations in the downloaded bid documents. In case, any corrections, addition, alterations are made in the downloaded bid documents; such bid shall be summarily rejected.
- ii. The Earnest Money shall be deposited in the form of demand draft/ pay order (in favour of NIT Patna) for an amount of **Rs. 200000 (two lakhs) only** payable at Patna. The EMD for all the unsuccessful bidders shall be returned without accruing any interest thereon after the Architectural Consultant is appointed by NIT Patna. No exemption from depositing the EMD shall be allowed to any participating bidder/firm. EMD of successful bidder shall be kept as Security Deposit and shall be released only after the final payment of the job of the Architectural consultancy.
- iii. Request for Clarifications/ Suggestions may be sent to Registrar, NIT Patna, Patna-800005, on email. [registrar@nitp.ac.in](mailto:registrar@nitp.ac.in)

### 2.2 Eligibility Criteria for empanelment of Architect/Consultant/Firm

- Relevant experience of consultancy services to Govt. / Semi. Govt. /other institutes of repute having comprehensive architectural services for at least one completed educational building campus not less than **1,25,000 sqm** built up area out of which at least two completed GREEN buildings of GRIHA 4 star rating in the last 5 years ending on **30.11.2013** (Documentary evidence in support of this shall be required)
- Financial Capabilities: Minimum average annual turnover from professional fees **exceeding Rs 01 (one) crore of the last five financial years ending on 31.03.2013.**
- Registration of Principal / Partner / Director of the firm with Council of Architecture (COA), India is mandatory. Joint ventures/consortium firms are not eligible. Consent of co-consultant is mandatory, if not in-house.
- Having or in a position to establish an office at Patna ( an affidavit in this regard is required) for close conduction of the work.

## 2.3 Instructions for submission of Bid Documents

The bids shall be invited in two Bid system ; Technical Bid and Financial Bid.

### 2.3.1 Technical Bid : It consists of following

- i. List of Experts/ Specialists with Architect such as Architects, Structural consultants, PHE consultant, Electrical consultant, Green building Consultants, Estimators etc.to be involved in the proposed project of new campus of NIT Patna at Bihta.
- ii. Attested copy of Registration certificate from Council of Architecture of Principal / Partner / Director and also of other architects in the firm (mandatory).
- iii. List of Experts with bio–data of key technical personnel and sub-consultant to be made available for the proposed project.
- iv. Details of firm, equipment, software, registration with tax authorities–Income Tax/Service Tax etc.
- v. Details of similar projects handled by Architectural Consultant (initiated or completed in the last 5 years ending on 31.08.2013) giving date of start, date of completion, cost of project and delay if any attributable to Architect. Photographs of work may also be given if available.
- vi. Photograph/ drawings/ details of qualifying projects
- vii. Performance certificate from client with detail of qualifying projects
- viii. List of similar projects in hand with Architect with description of projects, cost, time limit, targets etc.
- ix. Certified copies of Audited Balance Sheet & Income Tax Returns for the last 5 years ending FY-2012-13.
- x. Report explaining Architect’s approach particularly to this project describing implementation strategies starting from conceptualization, phasing, development approach, time management etc.
- xi. Time schedule for complete development of total project in the form of BAR CHART.
- xii. The composition of the team to be deployed for this project with their qualification, experience profile, projects handled.
- xiii. An undertaking that team deployed for the execution of the project will not be changed without the prior consent of NIT Patna.
- xiv. Every bidder has to furnish an affidavit **on a Rs. 1000/- (Rupees one thousand only) Non-judicial stamp** that information furnished in their bid is true to best of their knowledge and the official/s engaged in this project has never been under any type of

disciplinary/ vigilance proceeding. They would also undertake that their firm/ organization has never been blacklisted by any authority. Any material change in the present position of the firm would be intimated to NIT Patna immediately.

### 2.3.2 Financial Bid:

All the participants will be required to quote their Architectural fee as percentage of the Built up area cost and Lump-sum basis for preparing Master Plan in Indian rupees. Finally the fee shall be payable on the Built-up area cost. The service tax as applicable on consultancy fee shall be separately paid by NIT Patna. It may be noted that Financial Bid of only those architectural consultants shall be opened who score over all 60% or more in their technical bid evaluation including presentation as evaluated by the Selection Committee, whose decision in this regard shall be final and binding.

“Built Up Cost” for the purpose of payment of Architects fee will consist of the expenditure incurred towards the Gross amount paid to the Contractor towards Construction of the works as per works Contract agreement(s).

### 2.3.3 Instructions for submission of Technical & Financial bids:

#### i. Envelope-1:

It should contain two envelopes; one small envelope containing DD towards cost of tender documents as well as EMD. The envelop should be written on top as “**Tender Cost + EMD**”. The other envelop shall contain all material, documents as stated above like credential, turnover, reports, photographs, time schedule, management planning etc. in a sealed cover. The bid document along with its annexure downloaded from website ([www.nitp.ac.in](http://www.nitp.ac.in)) shall be duly signed on each page by the bidder and should be enclosed along with. This envelope shall also contain duly filled in check-list as per the format given in **Annexure II** and duly filled self evaluation technical bid form as per **Annexure III** at the end of the document. The envelope should be written on top as “**Documents for Technical Bid**”. Both these envelopes should be placed in a cover envelope which should be written on top as “**Envelop-1 : Technical Bid**”. In case of no deposit of cost of tender document and EMD, the technical bid of the firm shall not be evaluate and the firm shall be kept out of consideration in further bid process.

#### ii. Envelope-2:

Financial bid as per the format enclosed in the Annexure-I should be packed in a separate envelope and sealed and written on top as “**Envelop-2 : Financial Bid**”. Financial bid of only those firm shall be opened who qualify in the technical bid and presentation evaluation.

#### iii. Envelope-3:

This will contain Envelope-1 and Envelope-2 and shall be sealed. This envelope should be super scribed with the name of the project, date & time of submission and sent by registered Post/speed post/ courier to reach Registrar, NIT Patna, Ashok Rajpath, Patna - 800005 within prescribe time of submission.

## 2.4 Scope of submission

- Appraisal of existing site Conditions and supporting infrastructure
- Campus Design and Development of Master Plan
- Zoning, Ground Coverage and FAR Calculations for all Buildings (Administrative,

Academic, Residential etc.), Faculties, Campus Services.

- Landscape & Horticulture Plate.
- Campus Development Controls and Guidelines.
- Sustainable Design Strategies.
- Public Space Development and Guidelines.
- Green Building Features.

## 2.5 Selection Process

2.5.1 The Architect will be selected on the basis of QCBS (**Quality and Cost Based Selection**) as recommended by the selection Committee constituted by NIT Patna. The evaluation will be done on the basis of the highest combined score obtained in **the technical bid evaluation** including **presentation** and the figures quoted in the **financial bid**.

### 2.5.2 Presentation

The detail design based data and salient features are available in 1<sup>st</sup> Chapter-1. The other details of the project are available in the chapters to follow. The intending architectural consultant will cover at least the following aspects in their presentation.

- Concept Design of Master plan and Building & Services: The proposed structures should be in line with the environment and ecology of the area.
- Adopt renewable energy systems and Green building Concepts, plan for Gold or equivalent rating.
- Encompass minimum wastage, minimum external energy utilization, and minimum external water dependency by utilizing natural sources and recycling.
- Use environmentally friendly and locally available products and materials.
- Optimize operational and maintenance practices, requirement of minimum maintenance after construction.
- Plan Infrastructure and Services plan for transport systems, energy systems, intelligent building management and automation systems.
- Meet the best practices, standards, provisions as applicable to ecologically sustainable design, efficient use of energy and natural resources.
- Drawings and Documents to be submitted:
- A Report on A3 size not exceeding 10 pages on Campus Development Concept and Detailed Area Statement giving Ground Coverage, FAR and No. of Floors.
- Master plan and Schematic Services on Scale of 1:2000 supporting conceptual Diagrams can be on 1:5000 scales. All Drawing shall be scaled.
- Sectional profiles, Elevations and 3D Views to explain the Design Concept.
- Total No. of sheets shall not be more than **20** nos. to meet the requirements.
- 25 minutes for presentation and 5 minutes for discussion will be allowed.
- Hard copy of the presented drawings should be submitted in A0 size to the committee.
- **Important deliverables:** Master plan, plan of convention centre, at least one typical floor of (i) Residential building, (ii) Hostel building, (iii) Academic block, (iv) Admin Block.

The Selection Committee will evaluate the presentation on the above aspects.

The Selection Committee may choose to visit the works already executed on the basis of the applicants to make their assessment, if so required.





**(B) Presentation (40 marks):**

5	Presentation before Selection Committee	40	
6	<b>Total (A+B) (Ts)</b>	100	

**Note:**

- **Pass marks in technical bid evaluation will be over all 60 % including presentation.**
- **The opening of Financial Bid of only those architectural consultants shall be considered who score 60% i.e. 60 marks or more in their technical bid evaluation (including presentation) (Ts) as evaluated by the Selection Committee, whose decision in this regard shall be final and binding.**

- (C) Financial bid:** Before opening of financial bids of those successful bidders in the technical evaluation, their marks obtained shall be made public before them or their authorized representatives.

**Financial bid shall be given scoring as below:**

The bidder who has quoted the lowest price will be assigned a score of 100 in the financial bid. The other bidders will be allotted score relative to the score of bidder with the lowest quote as below:

$$F_s = 100 * F_1 / F$$

Where:

$F_s$  = The financial score of the Financial Proposal being evaluated

$F_1$  = The price of lowest priced Financial Proposal

$F$  = The quoted price of Financial Proposal under consideration

**(D) Combined evaluation**

The score of technical proposal including presentation would be given 70% weightage, and the financial proposal would be given 30% weightage. The weighted combined score of the Technical bid including presentation (Ts), and Financial proposals (Fs) shall be used to rank the bidders on the basis of formula given as below:

$$\text{Combined Score} = 80 \% * T_s + 20 \% * F_s$$

The first ranked i.e. the highest scoring bidder is eligible for appointment of the Architectural Consultant for the proposed new campus of NIT Patna at Bihta .

## 2.6 Important Points

### (A) Disqualification

The Selection Committee may disqualify bids on account of, but not limited to, the following reasons:

- If received after the last date and time.
- If the bidder disregards any of the terms & conditions of the bid and/or leaves any ambiguity in calculation of the consultancy fee.
- If the participants attempts to influence any member of the selection committee.
- Receipt of Conditional bids.

The decision of the Selection Committee in the matter of disqualification shall be final and binding and no further correspondence shall be entertained from the disqualified bidders thereafter.

### (B) Termination of the bid

- Against all expectation entertained by NIT Patna, if none of the participating firms could be declared by the Selection committee as the winner of the bid, the bidding will be regarded as terminated.
- NITP reserves right to accept or reject any/ all bidders without assigning any reason (s) thereof.

### (C) Award of work

The work of Architectural Consultancy services will be awarded as per recommendation of the Selection Committee on the basis of evaluation criteria mention earlier.

### (D) Settlement of Disputes

The decision of the Selection Committee shall be final & binding on participating firms. In the event of any dispute related to the judging procedure or the recommendation of the Selection Committee the settlement will be done by sole arbitration of the Director, NIT Patna or by any arbitrator appointed on his behalf without recourse to the legal authorities.

### (E) Time Schedule

- i. Pre-bid meeting held in the Conference Hall (CWRS) of existing NIT Patna campus at 3 PM on **12.12.2013**.
- ii. Last date & Time of Submission of Technical & Financial Bid on **15.01.2014** (up to 5 PM)
- iii. Date of publication of list of bidders, eligible for presentation, on institute website : **20.01.2014**
- iv. Date of presentation by the participating eligible bidders at 11 AM on **08.2.2014 and 09.2.2014**.
- v. Date of publication of technical score by the Architect/Firm/Consultant at 3 PM **09.02.2014**
- vi. Date of opening of Financial Bid at 4 PM on **09.02.2014**.
- vii. Date of award of work order to the selected Architect **by end of February 2014**.

Changes, if any, to the above dates will be notified on the website.

**(F) Additional Information:**

The Director, NIT Patna shall have the right vested to him for the following :

- i) Postpone and/ or extend the date of receipt of or to withdraw the bidding notice without assigning any reason thereof. In such an event, consulting firms shall not be entitled to any compensation in any form, whatsoever.
- ii) Cancel the bidding process and reject all or any of the proposals and will not be bound to accept lowest or any proposal or to give any reasons for the decision in the consultation with the Selection Committee.

In case, the last date for submission & opening of tenders is declared as a public holiday, the next official working day shall be deemed as last date of submission and opening of proposals without any change in time indicated. No separate notice to this effect shall be issued.

## CHAPTER 3

### Scope of works of Architectural Services

The detailed scope of works for Architect/ Firm/ Consultant shall comprise of preparation of Master plan and include the following for all the buildings/ Structures/ External & Internal Services/ Systems for the complete project on **Green building Concept** but not limited to.

#### 3.1 Architectural, Civil, Sanitary and Structural Work.

- i) Ascertain Institute requirements and examine site constraints & potential for individual buildings, external and internal systems/ services and prepare brief for Engineer/Engineer in-charges review/ recommendation and Institute approval including conceptual/ control designs/ drawing/ documents and incorporate required changes, if any.
- ii) Study of project requirements and control drawings and preparation of design philosophy, basis & criteria for individual buildings, structures, external and internal services & systems for review/ recommendations and approval from Institute.
- iii) Carrying out Soil Investigation, Study and interpretation of soil investigation report and finalize input data for structural and foundation design for individual buildings/ structures/ equipment etc.
- iv) Preparation of detailed architectural working drawing including but not limited to, dimensioned plans, elevations, internal layout, sections, details etc for individual buildings/ structures.
- v) Preparation of door/ window schedules, fitting schedules, finishing schedules, colour schemes, flooring patterns, reflected ceiling plans, ironmongery, joinery, installation details etc. for individual buildings/ structures/ equipment/ internal services etc.
- vi) Furnish necessary architectural norms, calculations etc to corroborate architectural detailing work.
- vii) Preparation of architectural and construction details such as fixing details, installation details, joinery, inserts, cut-outs, pockets, standard details and other construction details as required by site Engineers for successful completion of the project.
- viii) Study of input data and preparation of design calculations, schematic drawing and construction drawings for all external services, individual buildings pertaining to internal services such as:
  - a) External & Internal rain water System.
  - b) External & Internal Sewerage Piping System.
  - c) External & Internal Waste Water Piping system.
  - d) External & Internal rain water system
  - e) Connection of Internal Services Systems with external services network
  - f) Furniture for Institute buildings, class rooms, library, laboratories, Auditorium, Hostels & other buildings.
  - g) Internal and External Electrification

- h) Communication System
- ix) The detailed working drawings to include flow/ schematic diagrams, plans, elevations, sections, blow-ups etc. for individual services complete with material take off.
  - x) Designate a qualified Structural Engineer, who shall be wholly and singly responsible for structural soundness and safety of the buildings/ structures design under its scope.
  - xi) Preparation of detailed structural analysis & structural design calculations (including seismic design as applicable) based on design output, preparation of detailed structural drawings.
  - xii) Collection of input data from Institute/ Manufacturers/ vendors and design structural foundations (including dynamic analysis as applicable) for individual plant & equipment to be installed. The structural designs to cater for specialized requirements pertaining to special equipment.
  - xiii) Preparation of bar bending schedules and/ or detailed reinforcement drawing sufficient to enable the contractor to procure the steel from the market and cutting/ bending and placing of the reinforcement.
  - xiv) Preparation of fabrication/ construction/ shop drawings including material take of etc. complete.
  - xv) Detailed design, considering load data, Noise and Vibrations of equipment, drawings, cost estimates and specifications to cover all civil works associated with installation of all mechanical/ electrical equipment, services and systems.
  - xvi) Preparation of detailed specifications and data sheets for materials, work items, systems and services etc.
  - xvii) Preparation of detailed quantity estimates supported by detailed measurement sheets/ material take off sheets based on detailed drawings.
  - xviii) Preparation and submission of detailed cost estimates for buildings, structures, services & systems based on latest CPWD schedule of Rates with necessary indices and correcting slips, if any, applied thereupon. Preparation of rate analysis for those items, which are not available in CPWD-SOR, based on market rate quotations with rate analysis. Any deviation in quantity of items also required to be supported by rate analysis. Also preparation of abstract of quantities building wise or package wise, as required.
  - xix) Preparation of detailed “Bill of quantities” for tender proposes for individual buildings/structures/ campus viz. Road, Water Supply & Sanitation System, Internal and External Electrification and other relevant common services and a consolidated statement thereof.
  - xx) Preparation of list of recommended makes/ manufacturers for recommendations & approval of NIT Patna.
  - xxi) Preparation of “As-built” drawings (on the basis of actual construction at site) including services and structures.

### 3.2 ELECTRICAL WORKS

Load estimation and optimization, design of system/ equipment, selection, description, preparation of technical specifications, supporting calculations, BOQ, drawings, SLD, schematics, blank data sheets of recommended vendors list, rate analysis (with back up offers), cost estimates, obtaining clearances and certificates from statutory authorities wherever required for the following works:

**i) Internal Electrification Works For Institutional Buildings**

The major items shall include:

Lighting calculations for different buildings, Lighting & telephone layout drawings, conduit layout drawings, Mounting details of lighting fixtures and other fittings, Load calculations for internal electrification, DB/ SDB details of different circuits for lighting fixtures, fans, exhaust fans, sockets etc., earthing and lightning protection system calculations & drawings, cable sizing details, cable schedule. Details of protection switch gear, calculation of breaking capacity of upstream tripping, assessment of requirement of residual current circuit breaker and other special requirement of switch gear for scientific equipment along with specific requirement of zero halogen fire retardant and flame proof cables and switchgear in Laboratory.

**ii) External Electrification**

The major items shall include

- (a) Design of electrical distribution system and recommendation of capacity of electrical substation and centralized generating station for the entire campus.
- (b) Layout of cable, feeder pillars, street lighting system etc.

**iii) Audio-Visual System And Sound Reinforcement System For Institutional Buildings**

The major items shall include:

Conference room projection system, microphone, amplifier, speakers DVD Player, acoustics, cables, conduits, cable trays and floor-wise layout drawings and system layout drawings.

**iv) Internal Communication System For Institutional Buildings**

Detailing of internal communication system. Design and distribution drawing of PABX Line.

**v) Access Control System (Pc Based) For Multi Level Access For Institutional Buildings**

The major items shall include:

Card reader and biometric device, system and application software, cables, conduits and floor-wise layout drawings and system layout drawing.

**vi) Local Area Networking For Institutional Buildings**

The major items shall include:

Topology of networking, local area networking (Structured cabling), cables, conduits, raceways, sockets and layout drawings floor wise.

**vi) Fire Alarm system**

The major items shall include:

Design of fire alarm system for all individual buildings as well as entire campus as per NBC norms.

**3.3 MECHANICAL WORKS**

Design and preparation of system/equipment description, Technical specifications, BOQ, GA & Layout drawings, data sheets and calculation ensuring compliance with the latest codes/ standards as applicable, detailed cost estimates, rate analysis with back-up quotations, obtaining clearances from statutory authorities, wherever

applicable, any other information required to be included to complete the specification for the following works

**i) Lifts**

- a) Preparation of Technical specification considering the relevant code/ standard with capacity calculations, technical particulars with material of construction of various items.
- b) Preparation of layout drawings indicating the location of lifts, shaft, pit, machine room & floor levels.
- c) Preparation of bill of quantities.
- d) Preparation of blank data sheet to be field by vendors.
- e) Traffic Analysis.
- f) Preparation of specification of panels & other electrical equipment.

**ii) Air-conditioning Systems**

- a) It will be for various labs, Auditorium, Administration Building, Lecture Theatre, lab & Engineering Services Building, Library, other areas as required by NIT. There are certain areas where require special Air conditioning.
- b) Preparation of technical specifications of the system with capacity calculation along with basis for calculations.
- c) Preparation of technical particulars of each component of the system indicating their material of construction.
- d) Heat load calculation for summer and winter.
- e) Layout of each building showing the location of each components of the system.
- f) Ducting layout and plant room layout, AHU & ducting size calculations.
- g) Preparation of SLD, scheme GA drawing for the electrical panel, control desk and specification of electrical equipment.
- h) Blank data sheets of components, system to be filled by vendors.
- i) Any other Buildings/ services as directed by engineer in-charge/ NIT Patna.

**iii) Fire Fighting System:**

The major items shall include

Design of fire fighting system for all individual buildings as well as entire campus. Provision of sprinkler points as per NBC norms.

**3.4 External Services**

The overall scope of work covers including the following:-

- a) Site evaluation, analysis of architectural character, social issues & heritage.
- b) Feasibility study.
- c) Preliminary proposal for development and their impact on immediate environs.
- d) Volumetric study and urban form recommendations including pedestrian/ vehicular movement and parking.
- e) Architectural control guidelines and their approval from the statutory bodies.
- f) Concept design of services and their inner connectivity, preliminary & detailed drawings, designs, specifications, detailed estimates, working drawings, and periodic supervision for ensuring smooth progress of work for scope of work.



- g) Landscape architecture, site planning, suitability & appraisal, landform including preparation of detailed design & drawings of landscaping elements, open space design, plant structure, illumination design, street furniture and graphic design and signage's.
- h) Conceptual & detailed design, specifications, estimates of non-conventional use of energy (wherever applicable).
- i) Conceptual & detailed design, specifications, estimates of rain water harvesting of the entire site along with its approval from the concerned bodies (if any).
- j) Recycling of waste water, its appraisal, suitability study & preparation of detailed design/ schemes along with specifications & estimates.
- k) Preparation of detailed design schemes along with estimates, specifications, implementation methodology and facilitating NIT for getting concerned approvals (if any) for garbage disposal & solid waste management.

**l) Preliminary Concept Design Stage:**

- i) Study of existing land use in and around the project area.
- ii) Study of contextual issues, socio-cultural aspects, landscape features and built form etc.
- iii) Study of existing infrastructure, accessibility, circulation pattern and parking.
- iv) Preparation report on site evaluation and analysis with basic approach to circulation, activity distribution and interconnectivity and external linkages including rough estimate of the project cost based on allowable FAR.
- v) Furnish report on measures required to be taken to mitigate the adverse impact, if any, of the proposed development on its immediate environs. Obtaining environmental clearance certificate from concerned statutory authorities.

**m) Preliminary planning Stage:**

- i) Preparation of concept design of the area showing circulation pattern, zoning of various land uses, and relevant details, development strategy.
- ii) Assessment of utility services and their inter-connectivity.
- iii) Preparation of three-dimensional form in relation to open spaces, modal showing the proposal and surrounding areas.
- iv) Submission of model and conceptual design to the NIT/ Statutory bodies for approval & ensure compliance with codes, standards and legislation, as applicable and carry out Necessary changes as may be required.
- v) Obtaining approval from the municipal & other local authority for the master plan & building plans.
- vi) Obtaining necessary approvals from forest department and other local/ statutory authorities required for execution of project.

**n) Details Design Stage:**

- i) Preparation of drawings showing the common facilities for circulation, parking, open spaces and external architectural form.
- ii) Preparation of drawings showing architectural controls, features, specifications and obtaining statutory approvals.  
These shall include all floor plans, sections and elevations for all buildings to sufficiently explain the urban design.
- iii) Assessment of impact of development plan and its immediate environs.  
It shall further be supplemented by large scale details and models of the proposed architectural vocabulary along with information on selection of materials and construction techniques.
- iv) The architect shall prepare schematic network of all services and its interconnectivity including water supply, drainage, sewerage, electrical, communication, fire detection and firefighting, garbage disposal, rain water harvesting, recycling of waste water, irrigation system, use of solar energy and other services as may be indicated by NIT. The architect shall also prepare an integrated layout plan of NIT campus showing all the services. The architect shall also obtain approval of schemes of all services from the concerned local statutory authorities.  
The architect shall provide necessary preliminary design calculation and designs, reports, etc. for the above referred services as may be required for obtaining NIT/ Statutory approval. Preparation of necessary details and drawings showing landscape, street furniture and graphic signage including site appraisal and suitability, site-planning, land form and grading, surface drainage design and water management, irrigation design, open space design-roads, parking, hard, & soft areas, walls, gates, & fences, design of plant structures & feature, garden furniture design, illumination design, graphic design and signage, co-ordination of external services, inspection & evaluation of construction works along with detailed estimate and specifications.
- v) Furnish urban design report including implementation strategy.
- vi) Prepare detail designs of various external elements & components.
- vii) Presentation of urban design study and submission of design, drawings, calculations, reports etc. to the statutory bodies for approval and ensure compliance with codes, standards and legislation, as applicable and carry out necessary changes as may be required.
- viii) Firefighting & detection, garbage disposal etc. separately.
- ix) Furnish modified project cost.  
The architect shall prepare preliminary estimates of all buildings, services, works on the basis of plinth area rates/ Schedule of rates of CPWD duly correcting with multiplying factor for the location/ area.

**o) Implementation stage**

- i) Review and certification of detailed architectural design of each of the constituent components for construction or development

- within the area under urban design, before approval by the statutory authorities.
- ii) Supply to the employer such further drawings, specifications or details which may be required for proper execution of work.
  - iii) Obtain employer's approval for any material deviation in design, cost, working drawings, schedule and specifications from the approval scheme.
  - iv) Assist NIT Patna in obtaining service connections and NOC & occupying certificate from local authorities.
  - v) Visit the site of work, at intervals mutually agreed upon, to inspect and evaluate the Construction works and where necessary clarify any decision, offer interpretation of the drawings/ specifications, attend conferences and meetings to ensure that the project proceeds generally in accordance with the conditions of contract and keep the client informed and render advice on action, if required.

### 3.5 Broadly the Scope of Services is quantified as follows:

Activity No.	Activity	Scope of Services in each activity
1.	<b>Master/ Development Plan and its approval</b>	i) Topographical Survey of the whole area including preparation of Contour Maps, Preparation of Master/ Development Plan of the whole Campus based on the requirements of the Client and local bye-laws and its approval by the Client and the Local/ Statutory Bodies (if required). The Master Plan shall consist of Line Plans of Buildings, zones of various components of the campus (academic, residential, landscape, recreation and sports facilities, etc.) and Services of whole project within standard/ permissible FAR and Ground Coverage. The Client shall provide necessary assistance to the Architect in approval from Local/ Statutory Bodies in the form of issuing letters to local/ statutory bodies if required. Architect shall also be responsible to arrange Environmental clearance if required. Client shall reimburse only statutory charges, levied by any Govt. agency for this purpose.
2.	<b>Conceptual Plan and its approval from NIT Patna (including preliminary estimate)</b>	i) Preparation of Conceptual Plan of various Buildings and Services including its Walk through presentation and its approval from NIT Patna. ii) Preparation of Preliminary Estimate of the Building and Services.

		(This activity is to be taken up in phases)
3.	<b>Detailed Engineering of Buildings &amp; Services</b>	<p>i) Preparation of Building and Services Plan as per applicable standards &amp; Client's requirements. Its approval from NIT Patna.</p> <p>ii) Geo-technical Investigation of the Campus area as per advice of NIT Patna.</p> <p><b>iii) Structural Design of Structures and Services. The details/ calculations of Design should be made available to NIT Patna by the Architect. The Architect shall be responsible to get the designs proof checked from any NIT or IIT or Central University as approved by NIT Patna.</b></p> <p>iv) Preparation of Drawings and Detailed Estimate of all works/ packages for the project. <b>(This activity is to be taken up in phases)</b></p>
4.	<b>Statutory Approval of Building Plans &amp; Services</b>	<p>i) Approval of the Building Plan and Services by Local/ Statutory Authorities (if required) before start of execution of works if required. The Client shall provide necessary assistance to the Architect.</p> <p>ii) Approval from specialized agencies like Fire Services, Environment and Forest Department, Inspectorate of Electricity, lift inspector, Air etc. at completion of works.</p>
5.	<b>Tender Documents for Works Contracts</b>	<p>i) Preparation of Tender Documents consisting of Special Conditions of Contract, Specifications, additional/ special Specifications, Tender Drawings, Bill of Quantities etc. in consultation with NIT Patna.</p> <p>ii) The Notice Inviting Tender (NIT), Instructions to Tenders, General Conditions of Contract etc. shall be prepared by Architect as per their standard works procurement standards in consultation with the Client.</p> <p>iii) The NIT (Notice Inviting Tender) shall be published by PMC on behalf the NIT Patna or NIT Patna itself. The Architectural consultant shall be</p>

		<p>associated in the evaluation of Tender and Award of the Works to the Contractors, if called for.</p> <p>iv) The Tender drawings prepared by Architect shall consist of details of Architectural, Structural, AC, fire detection/ alarm and fire fighting, plumbing, drainage, sewerage, water supply, internal roads, landscape and horticulture, internal and external electrifications etc. complete including all other allied services necessary for making the structures and building functional.</p> <p><b>(This activity is to be taken up in phases)</b></p>
6.	<b>Construction Stage</b>	<p>i) Issue of detailed working drawings as per schedule of work.</p> <p>ii) Issue clarification regarding adequacy of drawings during construction (if required)</p> <p>iii) Taking part in review meeting to be organized at site periodically to monitor the progress and quality of the work.</p> <p>iv) Taking approvals from local/ statutory bodies (if required during execution of the work).</p> <p>v) Assisting the PMC /NIT Patna regarding approval of finishing materials (if required) during execution.</p> <p><b>(This activity is to be taken up in phases)</b></p>
7.	<b>Post Construction Stage</b>	<p>i) Taking Completion/ Occupancy Certificates from local/ statutory bodies (if required).</p> <p>ii) Taking No Objection Certificates from Fire/ Forest/ Environment departments etc. (as required as per extant rules of the area).</p> <p>iii) Issue of “As Built Drawing” of Buildings and Services on reproducible papers for records of the Client.</p> <p>iv) Assisting Client/PMC in any of the activities which are related with planning, design, approval and occupancy of the buildings and services etc.</p>

- i) The activity of Master Plan and its related works shall be done at one time. The subsequent activities shall be taken up in phases as per the advice of NIT Patna based on priorities and requirements of Institute and availability of funds.
- ii) The client may review the work carried out by the architect at architectural planning, detailed engineering or at any pre-constructional stage to get satisfied with the standards and procedures adopted by the architect. It shall be the responsibility of the architect to make available the concerned documents to the client/ Consultant on demand. All the documents shall be submitted in Hard & Soft Copies.
- iii) The broad scope of services is classified in terms of activities. All the incidental services related with pre-construction phase, construction and post construction phase including additional related details, approvals, completion/ occupancy certificates etc. shall be deemed to be included in the scope of services of Architect. No extra payment shall be made for such incidental services.
- iv) The Master Plan shall include the Schematic Details for Infrastructural Development-, External Electrical/ Plumbing/ Sewerage/ Water Supply, Fire Fighting Systems, Fiber Optic Connectivity-IT Infrastructure, Communication Networks, Roads, Pathways, Street Lighting, Campus Landscape/ Horticulture, Urban Furniture, Signage, Water (Rain Water harvesting) and Waste Management (STP/ETP) etc. Sustainable Model, Energy Conservation, or any other infra structural facilities as required as part of Master Plan).

### 3.6 Time Schedule

The activities in Clause No. 3.5 are basically divided in three phases viz. Pre-construction phase, Construction phase and post-construction phase. The duration of pre-constructional phase is **4 (four) months exclusive of tendering process** and award of work to working agency. The activities at Clause No. 3.5 are to be performed as per the following schedule:

Activity No.	Activity	Scope of Services in each activity	Duration
1.	<b>Master/ Development Plan and its Approval</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	1.5 Months from the date of letter of Award (LOA) issued to the architect.
2.	<b>Conceptual Plan and its Approval from Engineer-in-Charge Including Preliminary Estimate</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	1 Month from the date of clearance by client for a particular phase, work, building or package.
3.	<b>Detailed Engineering of Buildings &amp;</b>	As mentioned under scope of services for corresponding	2.5 Months from the date of clearance by client for a particular

	<b>Services</b>	activity in table under para 3.5.	phase, work, building or package.
4.	<b>Statutory Approval of Building Plans &amp; Services</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	4 Months from the date of clearance by client for a particular phase, work, building or package.
5.	<b>Tender Documents for Works Contracts</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	3.5 Months from the date of clearance by client for a particular phase, work, building or package.
6.	<b>Construction Stage</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	4 Months from the date of clearance by client for a particular phase, work, building or package. The stage will cover the duration of construction of the concerned phase/work.
7.	<b>Post Construction Stage</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	Within 60 days of issue of completion of a particular work by Engineer in-charge.

- i) More than one activity shall be started concurrently as per the schedule of activities as given in Clause No. 3.5, so that the whole pre-constructional activities are performed within stipulated time mentioned in clause 3.6 from date of letter of Award (LOA) or issue of clearance to the architect. The allocation of time has been made based on general assessment. The appropriation of time may take place in individual activity. However the time allocated for Pre-construction activities shall be 4 months for the phase/ work under consideration.
- ii) Time has been allocated for approvals of Master/ Development Plans by local/ statutory bodies (if required), Conceptual Plan by the Client and Building Plan by the local/ statutory bodies (if required) respectively. If any delays are caused on account of approvals by the local/ statutory bodies/ client beyond the allocated time, such delay shall be considered, if the completed drawings along with documents are submitted by the Architect to local/ statutory bodies or the client in time for approval with evidence. However no extension of time is allowed for delays attributable to the architect
- iii) In case approvals are not required, an undertaking to this effect is to be submitted by Architect NIT Patna.

## Chapter 4

### Fee for Architectural Services

#### 4.1 Stages of Payment of Architectural Consultancy Services Fee:

The following stage of payment shall be maintained:

Activity No.	Activity	Scope of Services in each activity	Payment percentage
1	<b>Master/ Development Plan and its Approval</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>75%</b> of accepted Lump-sum Fee on approval from Client and thereafter submission to the local/ statutory authorities (if required); balance <b>25%</b> on receipt of approvals from Local/ Statutory (if any).
2.	<b>Conceptual Plan and its Approval From Engineer- in-Charge/ Nit Patna including Preliminary Estimate</b>	As mentioned under scope of services for corresponding activity in table under para 3.5..	<b>10%</b> (Ten percent) of accepted fee of the concerned phase/ work/ package.
3.	<b>Detailed Engineering of Buildings &amp; Services</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>30%</b> (Forty percent) of accepted fee of the concerned phase/ work/ package.(less already paid)
4.	<b>Statutory Approval of Building Plans &amp; Services</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>40%</b> (Fifty percent) of accepted fee of the concerned phase/ work/ package, less already paid.
5.	<b>Tender Documents for Works Contracts</b>	i) As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>50%</b> (Sixty percent) of accepted fee of the concerned phase/ work/ package, less already paid.
6.	<b>Construction Stage</b>	As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>80%</b> (Eighty percent) of accepted fee of the concerned phase/ work/ package. .(less already paid)  The fee under this stage will be paid on prorata basis on the amount of work executed by the works contractors.
7.	<b>Post Construction Stage</b>	i) As mentioned under scope of services for corresponding activity in table under para 3.5.	<b>90%</b> (Ninety percent) of accepted fee of the concerned phase/ work/ package, less already paid.



- i) The stage/ final payment to the Architect shall be released by the Client after certification from NIT Patna.
- ii) The accepted fee (in percentage) shall be taken into account for phase wise payment to the Architect for works (except for Master Plan which is to be paid on Lump-sum basis) shall be based on Preliminary Estimate (of concerned phase) initially which shall be updated by detailed estimate, value of the work awarded to Works Contractor and finally based on Built-up cost of the Work.
- iii) The statutory deductions i.e., income tax or other applicable taxes shall be deducted from the architect's bill as per extant rules.
- iv) The **remaining 10%** of Fee shall be paid after the work has been completed in all respects and all clarifications have been obtained from the Architect for their scope of services including completion of Defects Liability Period of last works contract.
- v) The defects liability period shall be one year.
- vi) The Institute shall have the right to request in writing for additions, alterations, modifications or deletions (within a specified limit) in the design and drawing of any part of the work. The Architectural Consultants shall comply with such requests without any extra cost.
- vii) Architectural Consultants shall not make any material deviation, alteration, addition to or omission from the work shown and described in the contract document except without first obtaining the written consent of the Institute.

## Chapter-5

### General Conditions

#### 5.1 Definitions

- 5.1.1 'APPROVAL' shall mean and include the written consent, either manuscript, type written or printed statement, under signature or seal, as the case may be, given from time to time by NIT Patna or their authorized representative on documents, drawings or other particulars in relation to this Agreement.
- 5.1.2 "CLIENT" shall mean the NIT Patna.
- 5.1.3 "ARCHITECT /CONSULTANT" is the firm/ person appointed by the Client for preparation of Master Plan and Architectural works which will include the preparation of i) Conceptual Plans, Architectural Plans ii) Design Details, iii) Building Plans, Working Drawings; iv) Estimates; v) Bid documents; vi) Technical Specification; vii) Bill of quantities and all connected ancillary works which should conform to accepted standards. The Architect shall also be responsible for taking approvals of Master Plans/ Building Plans etc. from local/ statutory bodies including taking up completion certificates (if required as per norms of the area). NIT Patna shall have superintendence over the work of the Architect.
- 5.1.4 'COMMENCEMENT DATE OF CONTRACT' with reference to Architectural Contract shall mean the date of written orders issued by the Client to the Architect to start the Work.
- 5.1.5 'COMPLETION PERIOD' shall mean the period from the commencement date of Award to Architect to physical completion of the last work of the last phase by the Works Contractor.
- 5.1.6 'CONTRACT' shall mean this AGREEMENT including all exhibits hereto and all documents herein specified and amendments which both the parties may hereafter agree in writing to be made to this Agreement.
- 5.1.7 'CONTRACTOR' shall mean any agency/firm/person appointed by the Client for carrying out construction of different types of works involved in the campus development projects.
- 5.1.8 'COORDINATING OFFICER' shall mean the officer nominated by the Client or his representative as the case may be to whom all the matters related to the Project shall be referred to by the Architect for views, decisions, correspondences, approvals etc as per Scope of Services of the Contract and who shall provide and communicate such views, decisions, correspondences, approvals etc to the Architect on behalf of the Client.
- 5.1.9 'DRAWINGS' shall mean and include building and structural drawings, sketches showing plans, sections, design details and elevations related to the

projects together with modification and/ or revisions thereto as desired by the Client.

- 5.1.10 'MONTH' shall mean calendar month.
- 5.1.11 'PHYSICAL COMPLETION' with reference to Works Contract shall mean readiness of the project except in minor works, which does not prevent use/ occupation of the project by the Client for the purpose for which the projects have been designed.
- 5.1.12 'PROJECT or WORKS' shall mean the building projects of the Client comprising of Academic buildings, hostels, residential quarters, roads, internal & external electrification, landscaping, sewerage, drainage, other allied services etc.
- 5.1.13 'SERVICES' shall mean the responsibilities to be discharged by the Architect for fulfilling the obligations under this Agreement.
- 5.1.14 'SPECIFICATIONS' shall mean and include schedules, detailed descriptions, statement of technical data, performance characteristics, standards as applicable and specified in the Works Contract and to be read and supplemented with CPWD specifications/ other applicable specifications and as required by the Client.
- 5.1.15 'SUB-CONSULTANT' shall mean any agency engaged by the Architect for providing any of the services wherever deemed to be necessary for the successful completion of the projects.
- 5.1.16 'VENDOR' means any agency/ firm appointed by the Client for supply of Materials/ Equipment for the project.
- 5.1.17 'WORDS' in the singular include the plural and vice versa.
- 5.1.18 'WRITING' includes matter either in whole or in part, in manuscript, typewritten, lithographed, cyclostyled, photographed or printed under or over signature or seal as the case may be.
- 5.1.19 PMC (Project Management Consultant) means agencies appointed by NIT Patna, who may be CPWD or any Government undertaking agencies.

## **5.2 Reference Standards for Services**

The architect is required to provide services based on extant rules, local bye-laws, applicable standards and sound engineering practices. The reference of standards is detailed below for application in services of architect. The architect shall also refer the other required standard documents in case they are not mentioned below.

- 5.2.1 Development Plan, Architectural Plan, Building Plan and their approvals:
- i) Master and Zonal Plan of the Areas (if any)
  - ii) Applicable laws of fire service dept, environment & forest dept. and other concerned agencies.

- i) Client's requirements
- ii) MHRD/NIT Guidelines for space requirements (if any)
- iii) IDPFI Guidelines

#### 5.2.2 Design of structures, Preparation of drawings, detailed estimation etc:

- a) National Building Code, 2005
- b) IS: 1893 (latest edition)
- c) IS: 13920 (latest edition)
- d) IS: 13828 (latest edition)
- e) Other applicable standards connected with the scope of work.
- f) Sound Engineering Practice for detailed estimation
- g) Green Building concepts/ norms of LEED/ TERI
- h) Energy Conservation Building Code
- i) Electricity rules
- j) MHRD/ NIT Guidelines for Space Requirements (if any)

#### 5.2.3 Preparation of Bill of Quantities etc.

- a) CPWD Schedule of Rate, (latest)
- b) CPWD Schedules of Rates for Electrical, Fire Fighting Items
- c) CPWD Schedule of Rates for HVAC Items (if any)
- d) Additional Items based on Market Rate Analysis (Non-DSR Items) as per scope of work for standard materials/ items proposed to be used in this work for civil, electrical, fire detection/ alarm and fighting, lifts, HVAC, acoustics, Audio Visual including Public Address system, internal roads, drainage, sewerage, horticulture works etc.

#### 5.2.4 Preparation of Bid Documents

- a) CLIENT Standard Bid Documents for Procurement of work.
- b) Conditions of Contract of CPWD (latest edition)
- c) Works Manual, 2012 of CPWD (updated)
- d) CPWD Specifications, 2009 (updated)
- e) Additional Specifications for Non-Schedule rate Items
- f) Guidelines of Ministry of Finance for Procurement of Works, Goods and Services and GFR 2005
- g) Other Sound Engineering Practices

### 5.3 Force Majeure

If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reason of any war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics, strikes, lockouts or acts of God (hereinafter, referred to events) provided, notice of the happening of any such event is given by either party to the other within 10 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance/ delay in performance, and works under the contract shall be resumed as soon as practicable after such event has

come to an end or ceased to exist, and the decision of the Client as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 90 days, either party may at its option terminate the contract by giving notice to the other party.

#### **5.4 Notice**

Any notice to be given hereunder will be sent by registered post/ courier/ hand receipt at the last known head office address of the “Architect” and shall be deemed to have been served at the time at which the letter would be delivered in the ordinary course of post.

#### **5.5 Insurance to be made by Architect**

Professional Liability Insurance (PLI) for deficiencies/ inadequacies in the design of structures and other components for the period of five years with a minimum coverage equal to the Architect’s total accepted fee as per LOA shall be taken by Architect.

It may please be noted that all insurances and policies should start from the date of commencement of services and remain effective as per relevant requirements of Contract Agreement, or up to completion of scope of services, whichever is longer.

#### **5.6 Fairness and Good Faith**

##### **a) Good Faith**

The Architect and Client undertake to act in good faith with respect to each other’s rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

##### **b) Operation of the Contract**

The Parties recognize that it is impractical in this contract to provide for every contingency which may arise during the life of the Contract and the parties hereby agree that it is their intention that this contract shall operate fairly as between them and without detriment to the interest of either of them and that, if during the term of this contract either party believes that this contract is operating unfairly, the parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness but failure to agree on any action pursuant to this clause shall give rise to a dispute subject to Arbitration to be dealt as per relevant clause.

#### **5.7 Obligation of Architect**

- 5.7.1 Architect may be asked to get the structural drawings proof checked from any NIT or IIT or Central University as approved by NIT Patna. No extra payment shall be made to the Architect in this regard.

- 5.7.2 Architect/ Sub-Consultant shall carry all modifications as desired by Client.
  - 5.7.3 Architect shall supply detailed computations and back-up of design sheets to Client.
  - 5.7.4 Architect shall submit to all statutory authorities concerned drawings/ reports to the scale prescribed by the authorities and also shall submit required sets of drawings to obtain approval from statutory authorities (if required).
  - 5.7.5 Architect shall supply all drawings & designs on Auto CAD, STAAD- Pro / or any relevant computer programmes. Copy of final design/ drawings shall be made available to Client in soft copy also.
  - 5.7.6 The Architect shall be appointed by the Client. However the Architect shall work under the superintendence of NIT Patna. The stage/ final payment to the Architect shall be released by the Client after certification from NIT Patna.
  - 5.7.7 During construction phase, the Architect shall supply 6 (six) sets of all Good for Construction Drawings (Structural, Architectural, Services etc.) of all the structures i.e., buildings and services structures like drainage, sewerage, water supply, fire fighting, roads, horticulture, internal and external electrification, AC, lifts, rain water harvesting, fire fighting, LAN/WAN, communication and public address system, acoustics, sound/ thermal insulation etc. to NIT Patna as per schedule.
  - 5.7.8 The Architect shall make the “As Built Drawings” of the buildings and services structures along with preparation of Maintenance Manuals for different components of the complex.
  - 5.7.9 The co-ordination drawing may be required during execution of the work to ensure integrated construction of all the components. It is the responsibility of the Architect to prepare the additional drawings required for proper execution of the works which may be visualized during construction work.
- 5.8 **Obligation of client**
- 5.8.1 The client shall provide the copy of Plan of Site available with them.
  - 5.8.2 The client shall provide all required inputs about the utilities and functional requirements of the buildings to optimize the plan.
  - 5.8.3 The client shall provide all possible assistance to the architect in getting approval of buildings from local/ statutory authorities (if required).
- 5.9 **General**
- 5.9.1 Adequacy of Design

The services to be rendered by Architect shall be based on Institute Building Code 2005, relevant applicable codes and sound engineering practices. Major

decision and specifications shall be reviewed by the Client to the extent desired. Approval of any design/ drawing by Client shall however not absolve the Architect of their responsibilities regarding the adequacy of design and proper functioning of the works. The Architect shall be fully responsible for the adequacy, accuracy and quality of entire services performed by them in accordance with accepted standards of safety, earthquake requirements, environment protection, rain water harvesting, public health and energy efficiency.

#### 5.9.2 Additions and Alterations

The Client shall have the right to request in writing about changes, additions, modifications or deletions in the design and drawing of any part of the work and to request in writing additional work in connection therewith and the Architect shall comply with such requests after the final Building and Services Plans are made and approved.

#### 5.9.3 Foreclosure of contract

The Client reserve the right for foreclosure of contract without assigning any reason whatsoever. The payments in the event of foreclosure of contract shall be restricted to the amount defined/ stated for each activity independently and in the event of such termination, the Architect shall be entitled to all such fee for the services rendered and liable to refund the excess payment if any made to him over and above what is due in terms of this agreement on the date of termination and the Employer may make full use of all or any of the drawings prepared by the Architect.

#### 5.9.4 Rescinding of contract

In the event of failure on the part of the Architect to complete work in time or to the complete satisfaction of the Client or in the event of committing breach of any one or more of terms and conditions of the Agreement, Client shall be entitled to rescind this contract without prejudice to its right to claim damages or remedies under the law. The period of notice to be given to rescind the contract will be 30 days and in the event of such termination, Architect shall be liable to refund the excess payment if any made to him over and above due to him on the date of termination and Client will be entitled to make full use of all or any of the drawings/ documents prepared by Architect. In such case Client shall have power to engage another Architect to carry out the balance work debiting the excess amount if any so paid to Architect. Architect shall pay to Client on demand, such excess expenditure within 30 days of issue of notice failing which Architect shall be debarred from consultancy jobs of Client in future besides taking other course of action under law to recover such amount.

#### 5.9.5 Copyright/ proprietary right

The drawings, design, plan, related details prepared and acquired by the Architect for the work entrusted to him under this agreement will become the property of the Client. The drawings, design, plan, related details can not be issued to any other person, firm or authority or used by the Architect for any other project without prior permission of the Client. However the drawings and

design can be utilized by Client for other works and Architect shall not have any objection whatsoever.

#### 5.9.6 Contract Agreement

After acceptance of bid a formal contract agreement shall be executed on a non judicial stamp paper of Rs. 100/- (Rupees One hundred only), the cost of the same shall be borne by the Architect.

#### 5.9.7 Site Meeting

The site meeting shall be held during execution of the work with the Principal architect to sort out any clarification or to take any missing information in connection with the work. The meeting may be convened by the Client as per the need. However, at least one routine meeting shall be held in two months.

#### 5.9.8 **Site supervision / monitoring of the project**

Architect will deploy their representative at site during construction period. The representative will vigil on the quality and progress of the work and on architectural aspects with respect to architectural design. He will also issue certificates, about satisfactory progress, quality of the work, and the work is going on as per architectural design, to NIT Patna at the end of every month on behalf of main Architect. **The cost on the deployment of the representative will be born by the Architect.**

#### 5.9.9 Compensation for Error/ Variation

The Architect is responsible for making realistic detailed estimate and Bill of Quantities (BOQ) based on the drawings. The unrealistic estimation of quantities results in undue litigation during construction phase. **The Architect shall be required to pay compensation to the client for unrealistic and wrong estimation of quantities meant for BOQ. The amount of compensation shall be decided by NIT Patna.** However for minor variation in quantities (maximum up to plus/minus 10%) with respect to drawings, no compensation shall be imposed on Architect. The amount of compensation shall not exceed more than 10% of the fee of the Architect.



## Chapter-6

Annexure-I

### Proforma for Financial Bid (To be put in sealed cover)

Ref No.....  
Date.....

The Registrar  
NIT Patna

Sub: Comprehensive Architectural Services for development of Campus Master Plan, Detailed Building Plans Site Development, land Landscape design etc. for the new campus of NIT Patna at Bihta.

Dear Sir,

In response to subject work, we hereby quote our Consultancy Fee as under:

Sl. No.	Description of Work	Architectural CONSULTANCY Fee Excluding Service Tax	
		In Figures	In Words
1	Preparation of Master Plan with details as per Activity 1 of Clause 3.5 and its approval (if required) <b>(Fee to be quoted as Lump-sum amount)</b>		
2	Providing Architectural and Detailed Engineering Services for development of detailed design of structures and services, site development, landscape design etc. for NIT Patna campus at Bihta as per Clause 3.5 except Master Plan. <b>(Fee to be quoted as % of Built-up Cost)</b>		
3	<b>Total fee in Rs.</b>		

**Note:**

For evaluation of Financial Bid, the value of the Built-up cost of whole project shall be considered as Rs 200.00 (two hundred) Crores only. Architectural Consultant will be entitled to get applicable Service Tax on the fee quoted above at the rates as stipulated by Govt. of India from time to time **if applicable**. The service tax shall not be considered for evaluation of bid.

Thanking you,

Yours faithfully,

Bidder  
Date:

Signature with Name & Designation of the

(Authorized Seal)

## Chapter-7

### Annexure-II

#### CHECK LIST

No.....

1. EMD of **Rs. 2,00,000.00 (Two lakhs) only** by way of DD No.....dated in favour of “National Institute of Technology Patna” payable at Patna.
2. DD No..... dated.....for **Rs.5000.00 (Five thousand) only** in favour of “National Institute of Technology Patna” payable at Patna towards cost of Tender Document.
3. Attested copy of Registration certificate from Council of Architecture of Principal / Partner / Director and also of other architects employed with the firm
4. List of Experts with bio – data of key technical personnel and sub – consultant to be made available for this project.
5. Details of firm, equipment, software, registration with tax authorities–Income Tax/Service Tax etc.
6. Details of similar projects handled by bidders in last 5 years giving date of start, date of completion, built up area of project, cost of project and delay if any attributable to bidder.
7. Photograph/ drawings/ details of qualifying projects
8. Performance certificate from client with detail of qualifying projects.
9. List of projects in hand with description of project, cost, time limit, targets etc.
10. Certified copies of Audited Balance Sheet & Income Tax Returns for the last 5 years immediately preceding FY-2012-13.
11. Report explaining Architects approach particularly to this project describing implementation strategies starting from conceptualization, phasing, development approach, time management etc.
12. Time schedule for complete development of total project in the form of BAR CHART.
13. The composition of the core team to be deployed on permanent basis. The number of personnel likely to be deployed and their level may be indicated.
14. An undertaking that team deployed for the execution of the project will not change without the prior consent of NIT.
15. Financial Bid in the prescribed Format as given in **Annexure-I** in a sealed envelope.
16. The bid document along with its annexure either purchased or downloaded from the web shall be duly signed on each page by the bidder and enclosed along with technical bid in Envelope 1.

**NOTE: (i) The Check- List shall be duly filled in, and  
(ii) Duly filled Self Evaluation Proforma for Technical Bid as per 2.5.4 (A) as per Annexure III should be submitted alongwith the Technical Bid.**

## Chapter-8

### Annexure-III

#### Self Evaluation Proforma for Technical Bid as per 2.5.4 (A)

Sr. No.	Subhead	Max Marks	Self awarded marks
1	(i) One completed educational campus not less than 1,25,000 sqm built up area out of which at least two completed GREEN buildings of GRIHA 4 star rating in last 5 years as on 31/11/2013. Certificate shall be enclosed. (ii) Experience of designing completed Green campus (like systems etc.)	20  10	
2	Profit making for the last 5 years ( 1 marks for each year of profit making)	5	
3	Average annual turnover from consultancy services exceeding Rs. 1 (one) crore in last 5 years ending on 31.03.2013.	10	
4	List of Experts/ Specialist with Architect such as Architects, Structural consultants, PHE consultant, Electrical consultant, Green building Consultants, Estimators, Interior decorators etc.	15	
	Total	60	

## Chapter-9

### Physical Architecture

#### 9.1 Guiding Principles

- i) Institute would strive to develop environment friendly and ecologically sustainable infrastructure for the green building concept.
- ii) All buildings of the Institute would be designed and developed such as to preserve natural habitat, be appropriate to local condition, be earthquake resistant.
- iii) All infrastructures would be eco-friendly green buildings that are energy efficient and with sustainable material options for conventional Building Materials .
- iv) Aim will be to achieve Zero Energy building target by using solar energy, enhanced energy efficiency as per Energy Conservation Building Code 2007 by incorporating Solar water heating systems, Solar steam/ air heating systems, energy efficient solar buildings, Solar photovoltaic devices/ systems etc for the campus.
- v) Architectural design and construction activities must aim at achieving zero damage to the ecology and environment. Infrastructure is to be planned and carved out in such a way so as to keep the green covers intact and undisturbed during the construction activity.
- vi) Construction to flow with the natural gradient of land with minimal need for leveling and to merge naturally with the given landscape and topography.
- vii) Preservation and conservation of natural resources would be given due priority. Water harvesting, water recycling, sanitary facilities, garbage disposal, facilities, would be an integral part of physical planning of the Institute, its architectural design and campus layout.
- viii) The challenge is to achieve ambience, elegance and grandeur around nature and natural surroundings. While use of local ARCHITECTURE AND LOCAL MATERIAL WOULD BE EMPHASIZED, BUILDINGS WOULD BE DESIGNED TO BE MAINTENANCE FREE. Natural environment, forest and green cover are to be prescribed and be landscaped.

#### 9.2 Zoning and Campus Layout:

- i) Master plan of the Institute would clearly demarcate the areas like Institutional, recreational, residential and open spaces.
- ii) All buildings are to be modular to provide for future expansion needs without disturbing the aesthetics.
- iii) Institutional buildings would be so spaced as to ensure easy access and at the same time the future development needs of each school.
- iv) Co-location of related schools would be thoroughly planned to permit maximum resource sharing.
- v) Residential areas would be so located as to ensure privacy and independent access.
- vi) Common facilities to be so located as to ensure easy access to all internal stakeholders. At the same time, efforts would be made to make them independent of the academic buildings for access by outside users.

### 9.3 Details of Preliminary Requirement

Sl. No.	Particulars	No. of rooms
	<b>Academic Blocks</b>	
<b>1</b>	<b>School of Electrical &amp; Computer Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 150 persons
<b>1A</b>	<b>Department of Electrical Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 60 persons
(iii)	Faculty Room	60
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	02
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Labs	20
(ix)	PG, Research & Project Labs	10
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>1B</b>	<b>Department of Electronics and communication Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 60 persons
(iii)	Faculty Room	60
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	02
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Labs	20
(ix)	PG, Research & Project Labs	10
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>1C</b>	<b>Department of Instrumentation Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 30 persons
(iii)	Faculty Room	30
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5

(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>1D</b>	<b>Department of Computer Science Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 60 persons
(iii)	Faculty Room	60
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	02
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Labs	20
(ix)	PG, Research & Project Labs	10
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>1E</b>	<b>Department of Information Technology Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 60 persons
(iii)	Faculty Room	60
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	02
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Labs	20
(ix)	PG, Research & Project Labs	10
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>2</b>	<b>School of Mechanical Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 150 persons
<b>2A</b>	<b>Department of Mechanical Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 70 persons
(iii)	Faculty Room	70
(iv)	Mini Auditorium (120 capacity)	4
(v)	Seminar Hall (150 capacity)	03
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Drawing Hall of capacity 60	04

(ix)	Workshop big	01
(x)	Labs	20
(xi)	PG, Research & Project Labs	15
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents)	At least two places each
<b>2B</b>	<b>Department of Automobile Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	Drawing Hall (60 persons)	02
(x)	PG, Research & Project Labs	5
(xi)	Workshop	01
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>2C</b>	<b>Department of Production Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	Drawing Hall (60 persons)	02
(x)	PG, Research & Project Labs	5
(xi)	Workshop	01
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>2D</b>	<b>Department of Applied Mechanics Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01

(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	Drawing Hall (60 persons)	02
(x)	PG, Research & Project Labs	5
(xi)	Workshop	01
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>2E</b>	<b>Department of Industrial Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	Drawing Hall (60 persons)	02
(x)	PG, Research & Project Labs	5
(xi)	Workshop	01
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>2F</b>	<b>Department of Aerospace Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	Drawing Hall (60 persons)	02
(x)	PG, Research & Project Labs	5
(xi)	Workshop	01
(xii)	Departmental Library	01
(xiii)	Store	01
(xiv)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>3</b>	<b>School of Civil Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 75 persons
	<b>Department of Civil Engineering</b>	
(i)	HOD office	01



(ii)	Departmental Meeting Room	For 70 persons
(iii)	Faculty Room	70
(iv)	Mini Auditorium (120 capacity)	4
(v)	Seminar Hall (150 capacity)	03
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	15
(viii)	Drawing Hall of capacity 60	04
(ix)	Labs	20
(x)	PG, Research & Project Labs	15
(xi)	Departmental Library	01
(xii)	Store	01
(xiii)	Toilets (Ladies & Gents)	At least two places each
<b>4</b>	<b>School of Architecture and Planning Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 75 persons
<b>4A</b>	<b>Department of Architecture Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 65 persons
(iii)	Faculty Room	65
(iv)	Class Rooms (60+ capacity)	10
(v)	Class Rooms (30+ capacity)	12
(vi)	Lecture Theater (120 capacity)	2
(vii)	Large Lecture Theater (300 capacity)	01
(viii)	Faculty Lounge with Pantry	01
(ix)	Tutorial Rooms	15
(x)	Seminar Hall	4
(xi)	Labs	20
(xii)	PG, Research & Project Labs	12
(xiii)	Departmental Library	01
(xiv)	Store	01
(xv)	Boys Common room	01
(xvi)	Girls Common Room	01
(xvii)	Toilets (Ladies & Gents) as per norms	At least two places each floor
<b>5</b>	<b>School of Chemical Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 100 persons
<b>5A</b>	<b>Department of Plastic Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40

(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>5B</b>	<b>Department of Petroleum Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>5C</b>	<b>Department of Pulp &amp; Paper Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>5D</b>	<b>Department of Textile Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5

(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>5E</b>	<b>Department of Ceramic Engineering</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Mini Auditorium (150 capacity each)	01
(iv)	Seminar Hall (100 capacity each)	01
(vi)	Faculty Lounge with Pantry	01
(vii)	Tutorial Rooms	5
(viii)	Labs	10
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>6</b>	<b>School of Applied Science &amp; Social Science Engineering</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 75 persons
<b>6A</b>	<b>Department of Mathematics</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Seminar Hall (100 capacity each)	01
(v)	Faculty Lounge with Pantry	01
(vi)	Tutorial Rooms	5
(vii)	PG, Research & Project Labs	5
(viii)	Departmental Library	01
(ix)	Store	01
(x)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>6B</b>	<b>Department of Physics</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Seminar Hall (100 capacity each)	01
(v)	Faculty Lounge with Pantry	01
(vi)	Tutorial Rooms	5
(viii)	Labs	5

(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>6C</b>	<b>Department of Chemistry</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Seminar Hall (100 capacity each)	01
(v)	Faculty Lounge with Pantry	01
(vi)	Tutorial Rooms	5
(viii)	Labs	5
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>6D</b>	<b>Department of HSS</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 40 persons
(iii)	Faculty Room	40
(iv)	Seminar Hall (100 capacity each)	01
(v)	Faculty Lounge with Pantry	01
(vi)	Tutorial Rooms	5
(viii)	Labs	5
(ix)	PG, Research & Project Labs	5
(x)	Departmental Library	01
(xi)	Store	01
(xii)	Toilets (Ladies & Gents) as per norms	At least two places each
<b>7</b>	<b>School of Management and Distance Education</b>	
(i)	Dean office	01
(ii)	Meeting Room	For 50 persons
<b>7A</b>	<b>Department of MBA</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 15 persons
(iii)	Faculty Room	15
(iv)	Class Rooms (60+ capacity)	04
(v)	Class Rooms (30+ capacity)	02
(vi)	Lecture Theater (120 capacity)	1
(vii)	Large Lecture Theater (300 capacity)	0
(viii)	Faculty Lounge with Pantry	01
(ix)	Tutorial Rooms	04

(x)	Seminar Hall	1
(xi)	Labs	2
(xii)	PG, Research & Project Labs	2
(xiii)	Departmental Library	01
(xiv)	Store	01
xv	Boys Common room	01
(xvi)	Girls Common Room	01
(xvii)	Toilets (Ladies & Gents)	At least two places each floor
<b>7B</b>	<b>Department of Distance Education</b>	
(i)	HOD office	01
(ii)	Departmental Meeting Room	For 15 persons
(iii)	Faculty Room	15
(iv)	Class Rooms (60+ capacity)	02
(v)	Class Rooms (30+ capacity)	0
(vi)	Lecture Theater (120 capacity)	1
(vii)	Large Lecture Theater (300 capacity)	0
(viii)	Faculty Lounge with Pantry	01
(ix)	Tutorial Rooms	02
(x)	Seminar Hall	1
(xi)	Labs	2
(xii)	PG, Research & Project Labs	2
(xiii)	Departmental Library	01
(xiv)	Store	01
xv	Boys Common room	01
(xvi)	Girls Common Room	01
(xvii)	Toilets (Ladies & Gents)	At least two places each floor
<b>8</b>	<b>Administrative Block</b>	
<b>8A</b>	<b>Director Office</b>	
	Office Chamber	1
	Meeting room	For 50 persons
	Waiting room	For 20 persons
	PS office	1
	Director Secretariat	1
	General Office	1
	Record room	1
	Pantry	1
	Toilets	As per norms
<b>8B</b>	<b>Dy. Director office</b>	
	Office Chamber	1
	Meeting room	For 20 persons
	Waiting room	For 10 persons
	PS office	1
	Officers' Chamber	1

	AR office	1
	Record room	1
	Pantry	1
8C	<b>Registrar office and Establishment</b>	
	Office Chamber	1
	Meeting room	15 persons
	Waiting room	15 persons
	Officers chamber (DR)	6
	AR office	4
	General office	4
	Toilets	As per norms
8D	<b>Finance officer's office (DR Accounts)</b>	
	Office Chamber	1
	Meeting room	No need
	Waiting room	10 persons
	Officers chamber (AR)	2
	AR office	1
	General Office	1
	Record room	1
	Toilets	As per norms
8E	<b>Academic Records &amp; Examination Controller</b>	
	Office Chamber	1
	Meeting room	25 persons
	Waiting room	25 persons
	Officers chamber	4
	AR office	2
	General office	2
	Toilets	As per norms
8F	<b>Office of the Deans</b>	
	<b>General office for all deans</b>	1
	Toilets (Ladies & Gents) as per norms	2
8F.1	<b>Office of the Dean Academic</b>	
	Office chamber	1
	Waiting room	25 persons
	PS office	1
8F.2	<b>Office of the Dean Planning and Development</b>	
	Office chamber	1
	Waiting room	25 persons
	PS office	1
8F.3	<b>Office of the Dean student welfare</b>	
	Office chamber	1
	Waiting room	25 persons
	PS office	1

8F.4	<b>Office of the Dean faculty welfare</b>	
	Office chamber	1
	Waiting room	25 persons
	PS office	1
8F.5	<b>Office of the Dean Research &amp; Development</b>	
	Office chamber	1
	Waiting room	25 persons
	PS office	1
8G	<b>Office of the Engineering Cell (Estate Service Unit)</b>	
	Office chamber	1
	Meeting room	50 persons
	Waiting room	25 persons
	Officers chamber	8
	General office cum drawing office	2
	Engineering store	4
	Toilets	As per norms
8H	<b>Central Store</b>	
	Office of Store-in -charge	1
	Stationary store	4
	Lab equipment store	10
	Administrative officer 's chamber	4
	Toilets	As per norms
9	<b>Central Library</b>	
	Office of the Librarian	1
	PS Room	1
	Office of the Deputy Librarians	2
	Office of the Assistant Librarian	4
	Offices	1
	Reading Hall	As per norms (At least 4 nos)
	Computer Hall & e-library (100 persons)	As per norms (at least 2 nos)
	Book stacks hall	As per norms
	Journal stacks Hall	As per norms
	JCT infrastructure	As per norms
	Conference room	As per norms
	Discussion room	As per norms
	Toilets (Ladies + Gents)	As per norms
10	<b>Hostel Blocks</b>	

i)	<b>Single seated 800 capacity</b>	3 (Boys 2, Girls 1)
	Chief Warden chamber	1
	Wardens chamber	4
	Single seated room	800
	General office	1
	Officer's chamber	4
	Dinning hall	4
	Kitchen	4
	store	8
	Common Room	4
	Reading Room	1
	Visitor's room	1
	Sick room	2
	<b>Toilets</b>	Every floors or as per norms
ii)	<b>Double seated 800 capacity</b>	9 (Boys 6, Girls 3)
	Chief Warden chamber	1
	Wardens chamber	4
	Double seated room	400
	General office	1
	Officer's chamber	4
	Dinning hall	4
	Kitchen	4
	Common Room	4
	Reading Room	1
	Visitor's room	1
	Sick room	5
	Common Room	4
	store	8
iii)	<b>Bachelor Hostel 300 capacity</b>	1
	Chief Warden chamber	1
	Wardens chamber	2
	Suit type room (1BHK)	300
	General office	1
	Officer's chamber	1
	store	1
<b>11</b>	<b>Student Activities Center</b>	
	Sports officer's chamber	1
	Waiting room for 20 persons	1
	Junior sports officer's/coaches chamber	10
	Sports Secretary's room	10



	General office	1
	Badminton Hall	10
	Squash Hall	4
	TT room	6
	Carrom Board room	4
	Chess room	4
	Students meeting room	2
	store	4
	Toilets (Ladies + Gents)	As per norms
	Changing room (Ladies + Gents)	4 each
12	<b>Residential Blocks</b>	
	As per design based data (chapter -1)	
13	<b>Hospital Building</b>	
	CMO Chamber	1
	PS room	1
	General office	1
	Doctor's chamber with waiting space	10
	Minor OT	1
	Major OT	1
	Delivery room 2 bedded	1
	Emergency room	2
	Recovery room	1
	Autoclave (sterilization) room	1
	Doctor's changing room	2
	Doctor's rest room	2
	X-ray room	2
	ECG room	1
	Ultra sound room	1
	Pathology Lab	1
	ICU 10 bedded	1
	CT room	1
	General ward 10 bedded (Gents)	1
	General ward 5 bedded (Ladies)	1
	Single room	23
	Other rooms	As per norms of 50 bedded Hospital
14	<b>School Building</b>	
	Principal Chamber	01
	Meeting Room	For 50 persons
	Faculty Room	25
	Computer room for 80 computers	1
	Class Rooms (40+capacity)	50

	Class Rooms (30+ capacity)	02
	Lecture Theater (120 capacity)	1
	Faculty Lounge with Pantry	01
	Tutorial Rooms	20
	Seminar Hall	1
	Labs	10
	Project Labs	2
	Library	01
	Store	01
	Boys Common room	01
	Girls Common Room	01
	Toilets (Ladies & Gents)	As per norms
<b>15.</b>	<b>Shopping Complex</b>	
	Shops multi purpose	50
	Food plaza with kitchen	10
	Anchor Shop	02
	Big show room	10
	Hall for some office purpose	6
	Picture Theater	4
	Toilet	2
	Other facilities	as per norms
<b>16</b>	<b>Convention Center cum Innovation Center</b>	
<b>16A</b>	<b>Convention Center</b>	
	Auditorium 3000 capacity	1
	Auditorium 1000 capacity	1
	Auditorium 500 capacity	2
	Auditorium 250 capacity	4
	Conference Hall	4
	Bank	02
	Other Facilities as per norms	
<b>16B</b>	<b>Innovation Center</b>	
	Industry Interaction Office	2
	Office for incubation centre	1
	Alumni office	1
<b>16D</b>	<b>Placement office</b>	
	Professor-in-charge chamber	1
	Placement officer's chamber	5
	GD Room	10 for 20 persons

	Interview room	10
	General office	1
	Store	1
	Toilets (Ladies + Gents)	As per norms
<b>17</b>	<b>Teaching Complex</b>	
	Lecture theatres (300 persons)	10
	Lecture theatres (120 persons)	40
	Classroom (60+ persons)	40
	Toilets (Ladies + Gents) as per norms	2 in each floor
	Office cum store	2
<b>18</b>	<b>Guest House</b>	
	As per design based data (chapter -1)	
<b>19</b>	<b>Canteen, stationary shop and cafe</b>	
	As per design based data (chapter -1)	

**Note: Above requirements may change as per norms as suggested by the architect / Departmental Heads.**