



**SELF ASSESSMENT REPORT (SAR) FORMAT  
POSTGRADUATE ENGINEERING PROGRAMS**

NBCC Place, 4th Floor East Tower, Bhisham Pitamah Marg,  
Pragati Vihar New Delhi 110003  
P: +91(11)24360620-22, 24360654  
Fax: +91(11) 24360682  
E-mail: [membersecretary@nbaind.org](mailto:membersecretary@nbaind.org)  
Website: [www.nbaind.org](http://www.nbaind.org)  
(May, 2017)

## SAR Contents

Section	Item	Page No.
<b>PART A</b>	<b>Institutional Information</b>	
<b>PART B</b>	<b>Departmental Information</b>	
<b>Criteria Summary</b>		
1	Program Curriculum and Teaching – Learning Processes	
2	Program Outcomes and Course Outcome	
3	Students’ Performance	
4	Faculty Contributions	
5	Laboratories and Research Facilities	
6	Continuous Improvement	
<b>Annexure-I</b>	<b>Program Outcomes (POs)</b>	
<b>PART C</b>	<b>Declaration by the Institution</b>	

## **PART A: Institutional Information**

**1. Name and Address of the Institution:**

**2. Name and Address of the Affiliating University, if applicable:**

**3. Year of establishment of the Institution:**

**4. Type of the Institution:**

Institute of National Importance ☐

University ☐

Deemed University ☐

Autonomous ☐

Affiliated Institution ☐

Any other (Please specify) ☐

**Note:**

In case of Autonomous and Deemed University, mention the year of grant of status by the authority

**5. Ownership Status:**

Central Government ☐

State Government ☐

Government Aided ☐

Self-financing ☐

Trust ☐

Society ☐

Section 25 Company ☐

Any Other (Please specify) ☐

**Provide Details:**

**6. Vision of the Institution:**

**7. Mission of the Institution:**

**8. Details of all the programs offered by the institution:**

S. No.	Program Name	Name of the Department	Year of Start	Intake	Increase/Decrease in intake, if any	Year of Increase/Decrease	AICTE Approval	Accreditation Status*

**Table: A.8.1****\* Write applicable one:**

- Applying first time
- Granted provisional accreditation for two/three years for the period (specify period)
- Granted accreditation for 5/6 years for the period (specify period)
- Not accredited (specify visit dates, year)
- Withdrawn (specify visit dates, year)
- Not eligible for accreditation
- Eligible but not applied

**Note: 1.** Add rows as needed. 2. Separate tables for UG and PG Programs to be prepared.

**9. Programs to be considered for Accreditation vide this application**

S. No.	Program Name	Current Year Sanctioned Intake	Current Year Admission (in Nos.)
1			
N.			

**Table: A.9.1****10. Contact Information of the Head of the Institution and NBA coordinator, if designated:**

- Name:  
Designation:  
Mobile No:  
Email id:
- NBA coordinator, if designated  
Name:  
Designation:  
Mobile No:  
Email id:

## **PART B: Departmental Information**

**1. State the Vision and Mission of the Department**

**2. Justification of consistency of the Department Vision and Mission with the Institute Vision and Mission**

**3. Details of all UG & PG Programs offered by the department**

<b>S. No.</b>	<b>PG Program Name</b>	<b>Corresponding UG Program/Department Name</b>	<b>Current Year Sanctioned Intake</b>	<b>Current year Admission (in Nos.)</b>
1	For ex. Structural Engineering	Civil Engineering		
2	VLSI	Electronics		
N.				

**Table: B.3.1**

**4. State the Program Educational Objectives (PEOs) for the PG program(s) under consideration for accreditation.**

## Criteria Summary

Name of the program\_\_\_\_\_

Criteria No.	Criteria	Mark/Weightage
1.	Program Curriculum and Teaching –Learning Processes	125
2.	Program Outcomes and Course Outcomes	75
3.	Students' Performance	75
4.	Faculty Contributions	75
5.	Laboratories and Research Facilities	75
6.	Continuous Improvement	75
	<b>Total</b>	<b>500</b>

<b>CRITERION 1</b>	<b>Program Curriculum and Teaching –Learning Processes</b>	<b>125</b>
--------------------	--	------------

### 1.1. Program Curriculum (35)

#### 1.1.1. State the process for designing the program curriculum (10)

*(Describe the process that periodically documents and demonstrates how the program curriculum is evolved or give the process of gap analysis, whichever is applicable, considering POs)*

#### 1.1.2. Structure of the Curriculum (5)

Course Code	Course Title	Total Number of contact hours				Credits
		Lecture (L)	Tutorial (T)	Practical# (P)	Total Hours	
<b>Total</b>						

**Table: 1.1.2**

# Seminars, project works may be considered as practical

#### 1.1.3. State the components of the curriculum (10)

*Program curriculum grouping based on course components*

Course Component	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
Program Core			
Program Electives			
Open Electives			
Mini Projects			
Internships/Seminars			
Major Project			
Any other (Specify)			
<b>Total number of Credits</b>			

**Table: 1.1.3**

**1.1.4. Overall quality and level of program curriculum (10)**

**In case of affiliated institutions following criteria will be applicable for Program Curriculum:**

**1.1.1. State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes (10)**

**1.1.2. Appropriateness of the gaps identified (5)**

**1.1.3. Actions taken to bridge the gap (10)**

**1.1.4. Overall quality and level of program curriculum (10)**

**Note: In case program is able to demonstrate the compliance of university curriculum in attaining the program outcomes, then the marks distribution will be as indicated for non-affiliated institutions.**

**1.2. Teaching-Learning Processes (90)**

**1.2.1. Quality of end semester examination, internal semester question papers, assignments and evaluation (20)**

**1.2.2. Quality of student projects (30)**

*Quality of the project is measured in terms of*

- *Very clear and concise objectives*
- *Very clear methodology, articulated using technical terms indicating all steps and tools*
- *Cites substantial current and good quality literature*
- *Clarity in design/setting up of experiment.*
- *Benchmarks used / Assumptions made*
- *Interpretation of results and justification thereof and validity of the results presented.*
- *Overall presentation of the report*

**1.2.3. Initiatives related to industry interaction including industry internship/summer training (10)**

**1.2.4. Participation of Industry professionals in curriculum development, as examiners, in major projects (10)**

**1.2.5. Quality of laboratory work given (20)**

<b>CRITERION 2</b>	<b>Program Outcomes and Course Outcomes</b>	<b>75</b>
--------------------	---	-----------

## 2.1. Establish the connect between the courses and POs (15)

POs as defined in Annexure-I

<b>POs</b>	<b>Courses*</b>
<b>PO1</b>	
<b>PO2</b>	
<b>PO3</b>	
<b>POn</b>	

**Table: 2.1.1**

**\*Mention the courses relevant to the PO**

## 2.2. Attainment of Program Outcomes (60)

**2.2.1. Describe the assessment tools and processes used to gather the data upon which the evaluation of Program Outcome is based (20)**

**2.2.2. POs attainment levels with observations (40)**

**POs Attainment**

<b>Course</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>....</b>	<b>...</b>
C101					
C102					
...					
C201					
Attainment levels					

**Table: 2.2.2**

**Observations on attainment levels for each of the POs.**

<b>CRITERION 3</b>	<b>Students' Performance</b>	<b>75</b>
--------------------	------------------------------	-----------

<b>Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)</b>	<b>CAY</b>	<b>CAYm1</b>	<b>CAYm2 (LYG)</b>	<b>CAYm3 (LYGm1)</b>	<b>CAYm4 (LYGm2)</b>
Sanctioned intake of the program ( <i>N</i> )					
Total number of students admitted through GATE ( <i>N1</i> )					
Total number of students admitted through PG Entrance and others ( <i>N2</i> )					
Total number of students admitted in the Program ( <i>N1 + N2</i> )					

**Table: 3.1**

**CAY – Current Academic Year**

**CAYm1- Current Academic Year minus1= Current Assessment Year**

**CAYm2 - Current Academic Year minus2=Current Assessment Year minus 1**

**LYG – Last Year Graduate**

**LYGm1 – Last Year Graduate minus 1**

**LYGm2 – Last Year Graduate minus 2**

<b>Year of entry</b>	<b><i>N1 + N2</i> (As defined above)</b>	<b>Number of students who have successfully graduated</b>	
		<b>I Year</b>	<b>II Year</b>
CAY			
CAYm1			
CAYm2 (LYG)			
CAYm3 (LYGm1)			
CAYm4 (LYGm2)			

**Table: 3.2**

### **3.1. Enrolment Ratio through GATE (20)**

Enrolment Ratio=  $N1 / N$ ; *N* is sanctioned intake; *N1* is number of students admitted through GATE.

<b>Item</b> (Students enrolled at the First Year Level on average basis during the last three years starting from Current Academic Year)	<b>Marks</b>
>=80% students enrolled through GATE	20

>=60% students enrolled through GATE	16
>=50% students enrolled through GATE	12
>=40% students enrolled through GATE	8
>=20% students enrolled through GATE	6
<20% students enrolled through GATE	0

**Table: 3.1.1**

### 3.2. Success Rate in the stipulated period of the program (20)

S.I. = Number of students completing program in stipulated duration/ Number of students admitted in first year of same batch;

Average S.I.= Mean of SI for past 3 Batches

Assessment points = 20 X Average S.I.

### 3.3. Placement, Higher Studies and Entrepreneurship (20)

Assessment Points = 20 × average placement; N is the total no. of students admitted in first year

Item	CAYm1	CAYm2	CAYm3
No. of students placed in companies or Government Sector (x)			
No. of students pursuing Ph.D. / JRF/ SRF(y)			
No. of students turned entrepreneur in engineering/technology (z)			
$x + y + z =$			
Placement Index : $(x + y + z)/N$	P1	P2	P3
Average placement= $(P1 + P2 + P3)/3$			
Assessment Points = 20 × average placement			

**Table: 3.3.1**

#### 3.3.1 a. Provide the placement data in the below mentioned format with the name of the program and the assessment year:

Programs Name and Assessment Year				
S.no.	Name of the student placed	Enrollment no.	Name of the Employer	Appointment letter reference no. with date

**Table 3.3.1a**

**3.4. Professional Activities (15)**

**3.4.1. Student's participation in Professional societies/chapters and organizing engineering events (5)**

(Provide relevant details)

**3.4.2. Student's publications (10)**

(List the publications along with the names of the authors and publishers, etc.)

<b>CRITERION 4</b>	<b>Faculty Contributions</b>	<b>75</b>
--------------------	------------------------------	-----------

Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/ Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is "No")	Nature of Association (Regular/Contract)
	Degree (highest degree)	University	Year of Graduation							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		

**Note:** Please provide details for the faculty of the department, cumulative information for all the shifts for all academic years starting from current year in above format in Annexure - II.

#### 4.1. Student-Faculty Ratio (SFR) (10)

(To be calculated at Department Level)

No. of UG Programs in the Department (n): \_\_\_\_\_

No. of PG Programs in the Department (m): \_\_\_\_\_

No. of Students in UG 2<sup>nd</sup> Year= **u1**

No. of Students in UG 3<sup>rd</sup> Year= **u2**

No. of Students in UG 4<sup>th</sup> Year= **u3**

No. of Students in PG 1<sup>st</sup> Year= **p1**

No. of Students in PG 2<sup>nd</sup> Year= **p2**

**No. of Students = Sanctioned Intake + Actual admitted lateral entry students**

(The above data to be provided considering all the UG and PG programs of the department)

**S**=Number of Students in the Department = UG1 + UG2 +.. +UGn + PG1 + ...PGm

**F** = Total Number of Regular Faculty Members in the Department (excluding first year faculty)

**Student Teacher Ratio (STR) = S/F**

Year	CAY	CAYm1	CAYm2
u1.1			
u1.2			
u1.3			
UG1	<b>u1.1+u1.2+u1.3</b>	<b>u1.1+u1.2+u1.3</b>	<b>u1.1+u1.2+u1.3</b>
...			
u <sub>n</sub> .1			
u <sub>n</sub> .2			
u <sub>n</sub> .3			
UG <sub>n</sub>	<b>u<sub>n</sub>.1+u<sub>n</sub>.2+u<sub>n</sub>.3</b>	<b>u<sub>n</sub>.1+u<sub>n</sub>.2+u<sub>n</sub>.3</b>	<b>u<sub>n</sub>.1+u<sub>n</sub>.2+u<sub>n</sub>.3</b>
p1.1			
p1.2			
PG1	<b>p1.1+p1.2</b>	<b>p1.1+p1.2</b>	<b>p1.1+p1.2</b>
.....			
pm.1			
pm.2			
PGm	<b>pm.1+pm.2</b>	<b>pm.1+pm.2</b>	<b>pm.1+pm.2</b>
Total No. of Students in the Department ( <b>S</b> )	<b>UG1 + UG2 +... +UG<sub>n</sub> + PG1 + ...PGm</b>	<b>UG1 + UG2 + .. +UG<sub>n</sub> + PG1+... + PGm</b>	<b>UG1 + UG2 + .. +UG<sub>n</sub> + PG1+... + PGm</b>
No. of Faculty in the Department ( <b>F</b> )	<b>F1</b>	<b>F2</b>	<b>F3</b>
Student Faculty Ration (SFR)	<b>SFR1=S1/F1</b>	<b>SFR2= S2/F2</b>	<b>SFR3= S3/F3</b>
Average SFR	<b>SFR=(SFR1+SFR2+SFR3)/3</b>		

**Table 4.1**

- Marks to be given proportionally from a maximum of 10 to a minimum of 05 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

< = 15	-	10 Marks
< = 17	-	09 Marks
< = 19	-	08 Marks
< = 21	-	07 Marks
< = 23	-	06 Marks
< = 25	-	05 Marks
>25.0	-	0 Marks

**Note: Consideration of Contractual Faculty means:**

- All the faculty whether regular or contractual (except part-time or hourly based), will be considered. The contractual faculty appointed with any terminology whatsoever, who have taught for 2 consecutive semesters with or without break between the 2 semesters in corresponding academic year on full-time basis shall be considered for the purpose of calculation in the faculty student ratio. However, following will be ensured in case of contractual faculty:
  - Shall have the AICTE prescribed qualifications and experience.
  - Shall be appointed on full time basis and worked for consecutive two semesters with or without break between the 2 semesters during the particular academic year under consideration.
  - Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit.

- Faculty to be calculated Department wise as per the format given in SAR; Faculty appointment letters, time table, subject allocation file, salary statements and random interaction in person.
- No. of student's calculation as mentioned in the SAR (please refer table under criterion 4.1)
- Faculty Qualification as per AICTE guidelines shall only be counted

**4.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:**

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY		
CAYm1		
CAYm2		

**Table 4.1.1**

**4.2. Faculty competencies in the area of Program specialization (30)**

*(Relevant faculty information, in the area of Program specialization)*

**4.2.1. Faculty name and specialization for the program under consideration (10)**

Name of the faculty	Relevant Area of Specialization	
	CAY	CAYm1

**Table 4.2.1.1**

**4.2.2. Faculty Research Publication (10)**

Name of the faculty	Academic Research					
	Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc.			Ph.D. guided /Ph.D. awarded during the assessment period while working in the institute		
	CAYm1	CAYm2	CAYm3	CAYm1	CAYm2	CAYm3

**Table 4.2.2.1**

**4.2.3. Faculty Development work (10)**

**4.3. Faculty as participants in Faculty development/training activities/STTPs (5)**

*(Mention details such as program title, description, duration, resource person, type of training, training methodology, participants, etc.). Mention details separately for the programs organized and the programs participated outside the institution)*

#### **4.4. Research and Development (30)**

##### **4.4.1. Sponsored Research (15)**

Funded research from outside; considering faculty members contributing to the program:  
(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding Amount (Cumulative for CAYm1, CAYm2 and CAYm3):

Amount $\geq 50$ Lacs	15 Marks,
Amount $\geq 40$ and $< 50$ Lacs	10 Marks,
Amount $\geq 30$ and $< 40$ Lacs	5 Marks,
Amount $\geq 15$ and $< 30$ Lacs	2 Marks,
Amount $< 15$ Lacs	0 Mark

##### **4.4.2. Consultancy (from Industry) (15)**

Considering faculty members contributing to the program:  
(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding Amount (Cumulative for CAYm1, CAYm2 and CAYm3):

Amount $\geq 10$ Lacs	15 Marks,
Amount $< 10$ and $\geq 8$ Lacs	10 Marks,
Amount $< 8$ and $\geq 6$ Lacs	8 Marks,
Amount $< 6$ and $\geq 4$ Lacs	5 Marks,
Amount $< 4$ and $\geq 2$ Lacs	2 Marks,
Amount $< 2$ Lacs	0 Marks

<b>CRITERION 5</b>	<b>Laboratories and Research Facilities</b>	<b>75</b>
--------------------	---	-----------

**5.1. Adequate and well equipped laboratories in area of Program specialization (30)**

<b>Sr. No.</b>	<b>Name of the Laboratory</b>	<b>Specialized Equipment Name</b>	<b>Equipment details</b>	<b>Utilization details from the perspective of PO attainment</b>
1.				
N.				

**Table 5.1.1**

**5.2. Research facilities / center of excellence (30)**

<b>Sr. No.</b>	<b>Name of the Facility</b>	<b>Specialized Equipment Name</b>	<b>Equipment details</b>	<b>Utilization details from the perspective of PO attainment</b>
1.				
N.				

**Table 5.2.1**

**5.3. Access to laboratory facilities, training in the use of equipment (15)**

<b>CRITERION 6</b>	<b>Continuous Improvement</b>	<b>75</b>
--------------------	-------------------------------	-----------

#### **6.1. Actions taken based on the results of evaluation of each of the POs (25)**

Identify the areas of weaknesses in the program based on the analysis of evaluation of POs attainment levels. Measures identified and implemented to improve POs attainment levels for the assessment years including curriculum intervention, pedagogical initiatives, support system improvements, etc.

Actions taken, to be mentioned here.

#### **6.2. Improvement in Quality of Projects (10)**

#### **6.3. Improvement in Placement, Higher Studies and Entrepreneurship (10)**

*Assessment is based on improvement in:*

- *Placement: number, quality placement, core industry, pay packages etc.*
- *Higher studies: admissions for pursuing Ph. D in premier institutions*
- *Entrepreneurs*

#### **6.4. Improvement in the quality of students admitted to the program (10)**

*Assessment is based on improvement in terms of ranks/score in GATE examination*

<b>Gate Score</b>	<b>CAY</b>	<b>CAYm1</b>	<b>CAYm2</b>
Highest Score			
Minimum Score			

**Table 6.4.1**

#### **6.5. Improvement in quality of paper publication (10)**

#### **6.6. Improvement in laboratories (10)**

## **Annexure-I**

### **Program Outcomes**

- PO1:** An ability to independently carry out research /investigation and development work to solve practical problems
- PO2:** An ability to write and present a substantial technical report/document
- PO3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

***Note: Program may add up to three additional POs.***

## **Declaration**

The head of the institution needs to make a declaration as per the format given below:

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self-Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

**Date:**

**Signature & Name**

**Place:**

**Head of the Institution with seal**