NATIONAL BOARD OF ACCREDITATION

DRAFT FORMAT FOR

SELF ASSESSMENT REPORT (SAR)

FOR ACCREDITATION OF

UNDER GRADUATE ENGINEERING PROGRAMMES

(TIER-II)

NATIONAL BOARD OF ACCREDITATION

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Contents

Part A – Information

1. Institutional Information

1.1. Name and address of the institution and affiliating university:

(The name, address of the institution, and the name of the university which has given affiliation to this institution, are to be listed here)

1.2. Name, designation, telephone number, and email address of the contact person for the NBA:

(The name of the contact person, with other details, has to be listed here)

1.3. History of the institution (including the date of start and number of seats of various programmes of study along with the NBA accreditation, if any) in tabular form:

Year	Description
……	Institution started with the following programmes (intake strength)
……	NBA accreditation visits and accreditation granted, if any
……	Addition of new programmes, increase in intake strength of the existing programmes and/or accreditation status

(History of the institution and its chronological development along with the records of past accreditation need to be listed here)

1.4. Ownership status: Govt. (central/state) / trust / society (Govt./NGO/Private) /private/ other:

(Ownership status of the institute has to be listed here)

1.5. Vision and Mission of the Institution:

(The institution needs to specify its Vision and Mission)

1.6. Organisational Structure:

(Organisational chart showing the hierarchy of academia and administration to be listed here)

1.7. Financial status: Govt. (central/state) / grants in aid/ not for profit/ private self financing/ other:

(Financial status of the institute has to be mentioned here)

1.8. Academic Institutions of the trust/society:

Name of the Institution	Year of Establishment	Location

1.9. External sources of funds:

Name of the external source	Current Financial Year (CFY)	Current Financial Year *minus* 1 (CFYm1)	Current Financial Year *minus* 2 (CFYm2)	Current Financial Year *minus* 3 (CFYm3)

(The different sources of the external funds over the last three financial years are to be listed here)

1.10. Internally acquired funds:

Name of the external source	Current Financial Year (CFY)	Current Financial Year *minus* 1 (CFYm1)	Current Financial Year *minus* 2 (CFYm2)	Current Financial Year *minus* 3 (CFYm3)
Students' fee				

(The different sources of the internal funds over the last three financial years are to be listed here)

1.11. Were scholarships or any other financial assistance provided to students

(If any scholarship or financial assistance has been provided to the students, then the details of such assistance, over the last three financial years, has to be listed here. Also, mention the basis for the award of such scholarship)

Details	Current Financial Year (CFY)	Current Financial Year *minus* 1 (CFYm1)	Current Financial Year *minus* 2 (CFYm2)	Current Financial Year *minus* 3 (CFYm3)
Category				
Scholarship Assistance				
Amount				

1.12. Basis/criterion for admission to the institution:

All India entrance / state- level entrance / university entrance / 12th standard mark sheet / others:
(The basis/criterion for student intake has to be listed here)

1.13. Total number of engineering students:

	CAY	CAY*m*1	CAY*m*2	CAY*m*3
Total no. of boys:				
Total no. of girls:				
Total no. of students:				

Total number of other students, if any

(Total number of engineering students, both boys and girls, has to be listed here. The data may be categorised in tabular form for under graduate or post graduate engineering or other programme, if applicable)

1.14. Total number of employees

(Total number of employees, both men and women, has to be listed here. The data may be categorised in tabular form as teaching and supporting staff)

Minimum and maximum number of staff on roll in the engineering institution, during the CAY and the previous CAYs (1st July to 30th June):

A. Regular Staff

Items		CAY		CAY*m*1		CAY*m*2		CAY*m*3	
		Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Teaching staff in engineering	**M**								
	F								
Teaching staff in science & humanities	**M**								
	F								
Non-teaching staff	**M**								
	F								

(Staff strength, both teaching and non-teaching, over the last three academic years has to be listed here)

B. Contractual Staff, if any

Items		CAY		CAY*m*1		CAY*m*2		CAY*m*3	
		Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Teaching staff in engineering	**M**								
	F								
Teaching staff in science & humanities	**M**								
	F								
Non-teaching staff	**M**								
	F								

2. Departmental Information

2.1. Name and address of the department:

2.2. Name, designation, telephone number, and email address of the contact person for the NBA:

2.3. History of the department including date of introduction and number of seats of various programmes of study along with the NBA accreditation, if any:

Programme	**Description**
UG in.....	Started with.....seats in..... Intake increased to.....in..... Intake increased to.....in.....
PG in.....	.....
MCA.....	.....

2.4. Vision and Mission of the department

(The department is required to specify its Vision and Mission)

2.5. List of the programmes/ departments which share human resources and/or the facilities of this department/programme (in %):

(The institution needs to mention the different programmes which share the human resources and facilities with the department/programme being accredited)

2.6. Total number of students:

UG: PG: Doctoral:

2.7 Minimum and maximum number of staff on roll during the current and three previous academic years (1st July to 30th June) in the department:

Items	**CAY**		**CAY*m*1**		**CAY*m*2**		**CAY*m*3**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Teaching staff in the department								
Non-teaching staff								
Total								

2.7.1. Summary of budget for the CFY and the actual expenditure incurred in the CFYm1, CFYm2 and CFYm3 (for the department):

Items	**Budgeted in CFY**	**Actual expenses in CFY (till …)**	**Budgeted in CFY*m*1**	**Actual Expenses in CFY*m*1**	**Budgeted in CFY*m*2**	**Actual Expenses in CFY*m*2**	**Budgeted in CFY*m*3**	**Actual Expenses in CFY*m*3**
Laboratory equipment								
Software								
Laboratory consumable								
Maintenance and spares								
Training and Travel								
Miscellaneous* expenses for academic activities								
Total								

* Mention Heads/Components under Miscellaneous

3. Programme Specific information

3.1. Name of the Programme

UG in _____

(List name of the programme , as it appears on the AICTE approval letter, graduate's certificate and transcript, and abbreviation used for the programme)

3.2. Title of the Degree

(List name of the degree title, as it appears on the graduate's certificate and transcript, and abbreviation used for the degree)

3.3. Name, designation, telephone number, and email address of the Programme Coordinator for the NBA:

3.4. History of the programme along with the NBA accreditation, if any:

Programme	**Description**
UG in.....	Started with.....seats in..... Intake increased to.....in..... Intake increased to.....in.....

3.5. Deficiencies, weaknesses/concerns from previous accreditations:

3.6. Total number of students in the programme:

3*.7. Minimum and maximum number of staff for the current and the three previous academic years (1st July to 30th June) in the programme:*

Items	**CAY**		**CAY*m*1**		**CAY*m*2**		**CAY*m*3**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Teaching staff in the department								
Non-teaching staff								
Total								

3.8. Summary of budget for the CFY and the actual expenditure incurred in CFYm1, CFYm2 and CFYm3 (for this programme in the department exclusively):

Items	**Budgeted in CFY**	**Actual expenses in CFY (till …)**	**Budgeted in CFY*m*1**	**Actual Expenses in CFY*m*1**	**Budgeted in CFY*m*2**	**Actual Expenses in CFY*m*2**	**Budgeted in CFY*m*3**	**Actual Expenses in CFY*m*3**
Laboratory equipment								
Software								
Laboratory consumable								
Maintenance and spares								
Training and Travel								
Miscellaneous* expenses for academic activities								
Total								

* Mention Heads/Components under Miscellaneous

CRITERIA SUMMARY

Criteria No.	Criteria	First Time Compliance	Reaccreditation Compliance	Remarks if any (NBA perspective)
Department Specific Criteria				
1.	Vision, Mission and Programme Educational Objectives	60	20	**First time:** Definition and processes in place **Reaccreditation:** Evidence of processes followed effectively in respect of validated Vision, Mission and PEO statements
2.	Programme Curriculum and Teaching –Learning Processes	150	150	
3.	Programme Outcomes and Course Outcomes	100	150	**Reaccreditation:** more weightage to attainment as programmes are expected to achieve higher degrees of attainment of POs with improved processes and implementation
4.	Students' Performance	150	150	
5.	Faculty Information and Contributions	160	190	**Reaccreditation:** The faculty members are expected to get involved more in research, development, consultancy and related areas
6.	Facilities and Technical Support	80	50	**Reaccreditation:** Emphasis is on improvements only
7.	Continuous Improvement	50	90	**Reaccreditation:** Expectation on qualitative improvements

Institute Level Criteria				
8.	First Year Academics	50	50	
9.	Student Support Systems	50	50	
10.	Governance, Institutional Support and Financial Resources	150	100	**First time:** Processes in place **Reaccreditation:** Evidence of processes followed effectively
Total		1000	1000	
Note: **The programmes accredited as per guidelines mentioned in January 2013 Manual shall only be considered for reaccreditation. All others will be treated as first timers.**				

Self Assessment Report (SAR)

CRITERION I	Vision, Mission and Programme Educational Objectives	60 (First Time)	20 (Reaccreditation)

1. Vision, Mission and Programme Educational Objectives (60) (20)

1.1. State the Vision and Mission of the Institute and Department (5) (0)

(*State Vision and Mission statements of the Institute and the Department. In case of change from previous accreditation mention both with reasons thereof*)

1.2. State the Programme Educational Objectives (PEOs) (5) (0)

(*State the Programme Educational Objectives (3 to 5) of the programme seeking accreditation. In case of change from previous accreditation mention both with reasons thereof*)

1.3. Indicate where and how the Vision, Mission and PEOs are published and disseminated (5) (0)

(*Describe where (websites, curricula, posters etc.) the Vision, Mission and PEOs are published and how the stakeholders are informed*)

1.4. State the internal and external stakeholders of the programme and articulate their relevance (5) (0)

(*Internal stakeholders may include Management, Governing Board Members, faculty, support staff, students etc. and external stakeholders may include employers, industry, alumni, funding agencies, parents etc.)*

1.5. State the process for defining and/or reviewing the Vision and Mission of the Department, and PEOs of the programme (25) (15)

(*Articulate the process involved in defining and reviewing the Vision and Mission of the department and PEOs of the programme. Describe the process, in case of institutions that are more than ten years old that periodically review the PEOs based on the needs of the stakeholders of the programme*)

1.6. Establish consistency of PEOs with Mission of the Institute (15) (5)

(*Generate a Mission of the Institute – PEOs matrix with justification and rationale of the mapping*)

PEO Statements	M1	M2	….	Mn
PEO1:				
PEO2:				
PEO3:				
PEO4:				
PEO5:				

Note: M1, M2, . . Mn are distinct elements of Mission statement
Enter numbers 1, 2 or 3, where the correlation levels are
1: Slightly 2: Moderately 3: Substantially
If there is no correlation the cell to be left blank

CRITERION II	Programme Curriculum and Teaching –Learning Processes	150 First Time	150 Reaccreditation

2. Programme Curriculum and Teaching-Learning Processes (150)(150)

2.1. Programme Curriculum (30) (30)

2.1.1. State the process used to identify compliance of the University curriculum for attaining the Programme Outcomes, mention the identified curricular gaps if any (10) (10)

(*State the process details*)

2.1.2. State the delivery details of the content beyond the syllabus for the attainment of POs (20) (20)

(*Provide the additional course/learning material/content/laboratory experiments/projects etc., arising from the gaps identified in 2.1.1 in a tabular form with the delivery details for each of the assessment year in the format given below*)

CAYm2

S.No.	Gap	Content beyond	Date-Month-Year	Resource Person with designation	No. of students present

CAYm1

S.No.	Gap	Content beyond	Date-Month-Year	Resource Person with designation	No. of students present

CAY

S.No.	Gap	Content beyond	Date-Month-Year	Resource Person with designation	No. of students present

* The curricular gaps identified above may have to do with either some local college situations/ need, or may be generic. In the latter case, it would be desirable that the college shares this gap with the affiliating university for possible discussion in the University Academic Council etc. for university level changes. The local solutions found to meet the identified deficiency may also be shared with the university.

Please mention *in detail* whether the Institution has given such inputs and suggestions to the affiliating university regarding curricular gaps and possible addition of new content/add-on courses in the curriculum to bridge the gap and better attain certain program outcome.

2.2. Teaching-Learning Processes (120)(120)

2.2.1. Initiatives in teaching and learning (40)(40)

(*Initiatives in improving instruction methods, using real world examples, collaborative learning, the quality of laboratory experiments with regard to conduct, record observations, analysis etc. encouraging bright students, assisting weak students etc. The initiatives, implementation details and impact analysis need to be mentioned*)

2.2.2. Initiatives to improve the quality of mid-term tests and assignments (20)(20)

(*Mention the initiatives, implementation details and impact analysis related to quality assurance of mid-term tests and assignments that encourage and empower the students to develop insight and higher orders of learning)*

2.2.3. Initiatives to improve the quality of final year projects (25)(25)

(*Quality of the project is measured in terms of factors including, but not limited to, cost, type (application, product, research, review etc.), environment, safety, ethics and standards. Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes, and to enhance the relevance of projects. Mention the initiatives, implementation details and impact analysis*)

2.2.4. Initiatives related to industry interaction (15)(15)

(*Give details of the industry involvement in the programme such as industry-attached laboratories, partial delivery of appropriate courses by industry experts etc. Mention the initiatives, implementation details and impact analysis)*

2.2.5. Initiatives related to industry internship/summer training (20)(20)

(Mention the initiatives, implementation details and impact analysis etc.)

CRITERION III	Programme Outcomes and Course Outcomes	100	150*

* Higher weightage is given in case of reaccreditations as programme are expected to achieve higher degrees of attainment of POs with improved processes and implementation

3. Programme Outcomes and Course Outcomes (100) (150)

3.1. Establish the correlation between the courses and the POs (30) (20)

3.1.1. Programme level Course-PO matrix of all courses including first year courses

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												
…												
….												
….												
C409												

Table 3.1.1*

Note: Enter numbers 1, 2 or 3, where the correlation levels are

1: Slightly 2: Moderately 3: Substantially

If there is no correlation the cell to be left blank

* It may be noted that contents of Table 3.1.1 must be consistent with information available in Table 3.1.2. In fact, it may be useful to first create the equivalent of Table 3.1.2 for each course (although only one sample Table needs to be provided in the SAR as part of 3.1.2), and then using the information so craeted to populate Table 3.1.1.

3.1.2. Course Outcomes (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses)

Course Name: Ciii **Year of Study: YYYY - YYYY**

CO1	
CO2	
CO3	
CO4	
CO5	
CO6	

Table – 3.1.2

3.1.3. CO-PO matrices of courses selected in 3.1.2 (eight matrices)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												
Ciii*												

Table 3.1.3

Note: Enter numbers 1, 2 or 3, where the correlation levels are

1: Slightly 2: Moderately 3: Substantially

If there is no correlation the cell to be left blank

The entries in the last row (Ciii) should be 1, 2 or 3 by average approximations of relevant entries in the respective columns. For example if entries under PO1 are for CO1 as 1, CO2 as 2, CO3 as 0, CO4 as 3, CO5 as 3 and CO6 as 2, then the attainment of PO1~ 2 (11/5)

3.2. Attainment of Course Outcomes (40) (80)

3.2.1. Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10) (40)

(Examples of data collection processes may include, but are not limited to, specific exam/tutorial questions, assignments, laboratory tests, project evaluation, student portfolios (A portfolio is a collection of artifacts that demonstrate skills, personal characteristics, and accomplishments created by the student during study period), internally developed assessment exams, project presentations, oral exams, focus groups etc.)

3.2.2. Record the attainment of Course Outcomes of all courses with respect to set attainment levels (30) (40)

Programme shall have set Course Outcome attainment levels for all courses.

(The attainment levels shall be set considering average performance levels in the university examination for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect the COs of a course plus the performance in the University examination)

Measuring CO achievement through university examinations

Target may be stated in terms of percentage of students getting more than the university average marks or more as selected by the Programme in the final examination

Examples

Sample 1: 60% student scoring more than 60% marks in the final examination

Sample 2: 70% students scoring more than 50% marks in the final examination

- *Achievement is measured in terms of actual percentage of students getting set percentage of marks.*
- *If targets are achieved then all the course outcomes are attained for that year. Programme is expected to set higher targets for the following years as a part of continuous improvement.*
- *If targets are not achieved the programme should put in place an action plan to attain the target in subsequent years.*

Measuring CO achievement through Internal Assessments

Target may be stated in terms of percentage of students getting more than class average marks or more set by the programme in each of the associated COs in the assessment instruments (mid-term tests, assignments, mini projects, reports and presentations etc. as mapped with the COs)

Example

Mid-term test 1 addresses CO1 and CO2. Out of the maximum 20 marks for this test 12 marks are associated with CO1 and 8 marks are associated with CO2. Target is set at 50% students scoring over 70% marks for both CO1 and CO2.

- *Achievement is measured in terms of actual percentage of students getting set percentage of marks.*
- *If targets are achieved then the CO1 and CO2 are attained for that year. Programme is expected to set higher targets for the following years as a part of continuous improvement.*
- *If targets are not achieved the programme should put in place an action plan to attain the target in subsequent years.*

Similar targets and achievement are to be stated for the other internal assessment instruments

3.3. Attainment of Programme Outcomes (30) (50)

3.3.1. Describe assessment tools and processes used for assessing the attainment of each PO (10) (20)

(Describe the assessment tools and processes used to gather the data upon which the evaluation of each the Programme Outcome is based indicating the frequency with which these processes are carried out. Describe the assessment processes that demonstrate the degree to which the Programme Outcomes are attained and document the attainment levels)

3.3.2. Provide results of evaluation of each PO (20) (30)

Programme shall set Programme Outcome attainment levels for all POs.

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Programme level Course-PO matrix as indicated)

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												
…												
….												
….												
C409												
Direct Attainment												
Indirect Attainment												

- Direct attainment level of a PO is determined by taking average across all courses addressing that PO. Fractional numbers may be used for example 1.55.
- Indirect attainment level of a PO is determined based on the student exit surveys and employer surveys.

CRITERION IV	Students' Performance	150 (First time)	150 (Reaccreditation)

4. Students' Performance (150) (150)

Item	CAY	CAYm1	CAYm2	CAYm3
Sanctioned intake strength of the programme (*N*)				
Total number of students admitted in first year *minus* number of students migrated to other programmes at the end of 1st year (*N*1)				
Number of students admitted in 2nd year in the same batch via lateral entry (*N*2)				
Total number of students admitted in the Programme (*N*1 + *N*2)				

Year of entry (in reverse Chronological order	Number of students admitted in 1st year + admitted via lateral entry in 2nd year (*N*1 + *N*2)	Number of students who have successfully graduated*			
		I Year	II Year	III Year	IV Year
CAY					
CAYm1					
CAYm2					
CAYm3					
CAYm4 (LYG)					
CAYm5 (LYGm1)					
CAYm6 (LYGm2)					

**** successfully completed implies zero backlogs***

Year of entry (in reverse Chronological order	Number of students admitted in 1st year + admitted via lateral entry in 2nd year (*N*1 + *N*2)	Number of students who have successfully graduated without backlogs in any year of study *			
		I Year	II Year	III Year	IV Year
CAY					
CAYm1					
CAYm2					
CAYm3					
CAYm4 (LYG)					
CAYm5 (LYGm1)					
CAYm6 (LYGm2)					

**** successfully completed implies zero backlogs***

4.1. Success Rate in the stipulated period of the programme (50)(50)

4.1.1. Success rate without backlogs in any year of study (25) (25)

SI= (Number of students who graduated from the programme without backlog)/(Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry)

Average SI = Mean of success index (SI) for past three batches

Success rate without backlogs in any year of study = 20 × Average SI

Item	Latest Year of Graduation, LYG (CAY*m*4)	Latest Year of Graduation minus 1, LYG*m*1 (CAY*m*5)	Latest Year of Graduation minus 2, LYG*m*2 (CAY*m*6)
Number of students admitted in the corresponding First Year + admitted via lateral entry in 2nd year			
Number of students who have graduated without backlogs in the stipulated period			
Success index (SI)			

4.1.2. Success rate in stipulated period (25)(25)

SI= (Number of students who graduated from the programme in the stipulated period of course duration)/(Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry)

Average SI = mean of success index (SI) for past three batches

Success rate = 30 × Average SI

Item	LYG (CAY*m*4)	LYG*m*1 (CAY*m*5)	LYG*m*2 (CAY*m*6)
Number of students admitted in the corresponding First Year + admitted via lateral entry in 2nd year			
Number of students who have graduated in the stipulated period			
Success index (SI)			

4.2. Academic Performance in Fourth Year (10) (10)

Academic Performance Level = ((Mean of 4h Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Fourth Year/10)) x (successful students/number of students appeared in the examination)

Successful students are those who passed in all the final year courses

Academic Performance Level	LYG (CAY*m*4) – IV Year No. of Students
9 - 10	
8 - 9	
7 - 8	
6 - 7	
5 - 6	
Total	
Approximating API by Mid-CGPA	
Mean of CGPA/Percentage of all the students (API)	
Total no. of successful students	
Total no. of students appeared in the examination	
Assessment	

4.3. Academic Performance in Third Year (20)(20)

*Academic Performance Level = 2 * ((Mean of 3rd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Third Year/ 10)) x (successful students/number of students appeared in the examination)*

Successful students are those who are permitted to proceed to the final year

Academic Performance Level	**LYG (CAY*m*4) – III Year No. of Students**
9 - 10	
8 - 9	
7 - 8	
6 - 7	
5 - 6	
Total	
Approximating API by Mid-CGPA	
Mean of CGPA/Percentage of all the students (API)	
Total no. of successful students	
Total no. of students appeared in the examination	

4.4. Academic Performance in Second Year (20)(20)

*Academic Performance Level = 2 * ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful student sin Second Year / 10)) x (successful students/number of students appeared in the examination)*

Successful students are those who are permitted to proceed to the third year

Academic Performance Level	**LYG (CAY*m*4) – II Year : No. of Students**
9 - 10	
8 - 9	
7 - 8	
6 - 7	
5 - 6	
Total	
Approximating API by Mid-CGPA	
Mean of CGPA/Percentage of all the students (API)	
Total no. of successful students	
Total no. of students appeared in the examination	

4.5. Placement and Higher Studies (30)(30)

Assessment Points = 30 × (x + y)/N

where, *x* = Number of students placed in companies or Government sector

y = Number of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National level tests, GRE, GMAT etc.)

N =Total number of final year students

Item	LYG	LYGm1	LYGm2
Total No. of Final Year Students (N)			
No. of students placed in companies or Government Sector (x)			
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) – (y)			
x + y			
Placement Index : (x + y)/N			
T = Average of (x + y)/N			
Assessment = 30 X T			

4.6. Professional Activities (20)(20)

4.6.1. Professional societies / chapters and organising engineering events (5)

(The Department shall provide relevant details)

4.6.2. Publication of technical magazines, newsletters, etc. (5) (5)

(The Department shall list the publications mentioned earlier along with the names of the editors, publishers, etc.)

4.6.3. Participation in inter-institute events by students of the programme of study (10) (10)

(The Department shall provide a table indicating those publications, which received awards in the events/conferences organized by other institutes.

CRITERION V	Faculty Information and Contributions	160 First time	190* Reaccreditation

* After the programme is accredited for the first time the faculty members are expected to get involved more in research, development, consultancy and related areas

5. Faculty Information and Contributions (160)(190)

Name of the faculty member	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of teaching load (%)			Academic Research			Sponsored Research (Funded Research)	Consultancy and Product Development	Holding an incubation unit
			1st Year	UG	PG	Research Paper Publications	PhD Guidance	Faculty receiving PhD during the assessment period			

Note: Please provide the above table for the current and previous two academic years i.e. for CAY, CAYm1 and CAYm2.

* ***Data in the above table is used for evaluation in the sub-sections that follows.***

5.1. Student-Teacher Ratio (STR) (10) (10)

S:T ratio = N/T

T = (a + b – c) for every assessment year

a: Total number of full-time regular teachers serving fully to 2nd, 3rd and 4th year of the this programme

b: Total number of full-time equivalent regular teachers (considering fractional load) serving this programme from other Programme(s)

c: Total number of full time equivalent regular teachers (considering fractional load) of this programme serving other programme(s)

Regular teachers are full time teachers on roll at the Institute/College with salary as prescribed pay scales of the Government. Teachers on contract for limited period are not counted as regular teachers.

N = (*x* + *y* + *z*)

x = Number of students in 2nd year of the programme or approved intake including lateral entry candidates whichever is higher

y = Number of students in 3rd year of the programme or approved intake whichever is higher

z = Number of students in 4th year of the programme or approved intake whichever is higher

Year	***x***	***y***	***z***	***N***	***T***	**STR (N/T)**
CAY*m*2						
CAY*m*1						
CAY						
Average STR for three Assessment Years						

Marks to be given proportionally from a maximum of 10 to minimum of 5 for average STR of 15:1 to 20:1, and zero for average STR higher than 20:1

5.2. Teacher Cadre Proportion (20) (20)

The reference teacher cadre proportion is 1(T1):2(T2):6(T3)

T1: Number of Professors required = 1/9 x Number of teachers required to comply with 15:1 Student-teacher ratio based on admitted students including lateral entry or sanctioned intake whichever is higher

T2: Number of Associate Professors required = 2/9 x Number of teachers required to comply with 15:1 Student-teacher ratio based on admitted students including lateral entry or sanctioned intake whichever is higher

T3: Number of Assistant Professors required = 6/9 x Number of teachers required to comply with 15:1 Student-teacher ratio based on admitted students including lateral entry or sanctioned intake whichever is higher in 2nd, 3rd and 4th year of study.

Year	Professors		Associate Professors		Assistant Professors	
	Required T1	Available	Required T2	Available	Required T3	Available
CAY*m*2						
CAY*m*1						
CAY						
Average Numbers	RT1=	AT1=	RT2=	AT2=	RT3=	AT3=

Cadre Proportion Marks = $\left[\left(\frac{AT1}{RT1}\right)+\left(\frac{AT2}{RT2}\text{x}0.6\right)+\left(\frac{AT3}{RT3}\right)\text{x}\,0.4\right]\text{x}10$

- If AT1 = AT2= 0 then zero marks
- Maximum marks to be limited if it exceeds 20

Example:

Intake = 180; Required number of teachers: 12; RT1= 1, RT2=2 and RT3=9

Case 1: AT1/RT1= 1; AT2/RT2 = 1; AT3/RT3 = 1 Cadre proportion marks = (1+0.6+0.4) x10 = 20

Case 2: AT1/RT1= 1; AT2/RT2 = 3/2; AT3/RT3 = 8/9 Cadre proportion marks = (1+0.9+0.3) x10 = limited to 20

5.3. Faculty Retention (20) (20)

Item	Marks
≥90% of required teachers retained during the period of assessment keeping CAYm2 as base year	**20**
≥75% of required teachers retained during the period of assessment keeping CAYm2 as base year	**15**
≥50% of required teachers retained during the period of assessment keeping CAYm2 as base year	**10**
<50% of required teachers retained during the period of assessment keeping CAYm2 as base year	**0**

5.4. Innovations by the teachers in Teaching and Learning (25) (25)

Innovations by the teachers in teaching and learning shall be summarized as per the following description.

Contributions to teaching and learning are activities that contribute to the improvement of student learning. These activities may include innovations including, however not limited to, use of ICT, in instruction delivery, instructional methods, assessment, evaluation and inclusive class rooms that lead to effective, efficient and engaging instruction. Any contributions to teaching and learning should satisfy the criteria:

- *The work must be made available on Institute web site*
- *The work must be available for peer review and critique*
- *The work must be able to be reproduced and built on by other scholars*

The department/institution may set up appropriate processes for making the contributions available to the public, getting them reviewed and for rewarding. These may typically include statement of clear goals, adequate preparation, use of appropriate methods, significance of results, effective presentation and reflective critique

5.5. Teachers as participants in teacher development/training activities (15) (15)

- A teacher scores maximum five points for participation
- Participant in 2 to 6 days teacher/faculty development programme : 3 Points
- Participant >6 days teacher/faculty development programme : 5 points

Name of the teacher	**Max. 5 per teacher**		
	CAY*m*2	**CAY*m*1**	**CAY**
Sum			
***RT* = Number of teachers required to comply with 15:1 Student-teacher ratio based on admitted students including lateral entry or sanctioned intake whichever is higher**			
Assessment = 3 × Sum/0.5RT (Marks limited to 15)			
Average assessment over three years (Marks limited to 15) =			

5.6. Research and Development (30) (70)

5.6.1. Academic Research and Sponsored Research (15) (35)

- Academic research includes research paper publications, PhD guidance, faculty receiving PhD during the assessment period
- Sponsored research (Funded Research)

All relevant details shall be mentioned.

5.6.2. Consultancy and Product Development (15) (35)

5.7. Teacher Performance Appraisal and Development System (TPADS) (30) (15)

Teachers of Higher Education Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, teachers need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, develop expertise for the effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real life problems in industry. Another role relates to the shouldering of administrative responsibilities to co-operation with other teachers, heads-of-departments and the Head of Institute. An effective performance appraisal system for teachers is vital for optimizing the contribution of individual teachers to institutional performance

The assessment is based on

- A well defined system instituted for all the assessment years
- Its implementation and effectiveness

5.8. Visiting/Adjunct Faculty (10) (15)

Adjunct faculty includes industry experts. Provide details of participation and contributions in teaching and learning and /or research by visiting/adjunct faculty for all the assessment years

CRITERION VI	Facilities and Technical Support	80 First time	50 * Reaccreditation

***** Emphasis on improvement only

6. Facilities and Technical Support (80) (50)

6.1. Laboratories in the department to meet the Curriculum Requirements (65) (35)

6.1.1. Availability of adequate, well-equipped laboratories to meet the curriculum requirements (40) (20)

(Assessment is based on the information provided in the following table)

Laboratory description in the curriculum	Number of experiments	Quality of instruments

6.1.2. Initiatives by the Department to create facilities for improving the quality of experiments (25) (15)

Mention initiatives, implementation and effectiveness

6.2. Technical Manpower Support in the Department (15)(15)

Name of the technical staff	Designation	Date of joining	Qualification		Other technical skills gained	Responsibility
			At Joining	Now		

6.2.1. Availability of adequate and qualified technical supporting staff for programme - specific laboratories (10) (10)

(Assessment based on the information provided in the preceding table)

6.2.2. Incentives, skill upgrade, and professional advancement (5) (5)

(Assessment based on the information provided in the preceding table)

CRITERION VII	Continuous Improvement	50 First Time	90 *Reaccreditation

* Expectation on qualitative improvements

7. Continuous Improvement (50) (90)

7.1. Actions taken based on the results of evaluation of each of the POs (20) (40)

Identify the areas of weaknesses in the programme based on the analysis of evaluation of POs attainment levels. Planned measures identified and implemented to improve POs attainment levels for the assessment years.

Examples of analysis and proposed action

Sample 1- Course outcomes for a laboratory course did not measure up as some of the lab equipments did not have the capability to do the needful (e.g. single trace oscilloscopes where dual trace would have been better).
Action taken- Equipment upgradation was carried out.

Sample 2- In a course on EM theory student performance has been consistently low with respect to some COs. Analysis of answer scripts and discussions with the students revealed that this could be attributed to a weaker course on vector calculus.

Action taken- revision of the course syllabus was carried out (text book was changed too)

Sample 3- In a course that had group projects it was determined the expectations from this course about PO3 (like: "to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations") were not realized as there were no discussions about these aspects in planning and execution of the project. Action taken- Project planning, monitoring and evaluation included in rubrics related to these aspects.

PO Attainment Levels and Actions for improvement LYGm2

LYG: Latest year of graduation; LYGm1: Latest year of graduation minus one year; LYGm2: Latest year of graduation minus two years

	Target Level	**Attainment Level**	**Observations**
PO1			
Action 1: **Action2:**			
PO2			
Action 1: **Action2:**			
PO3			
Action 1: **Action2:**			

PO4			
Action 1: **Action2:**			
PO5			
Action 1: **Action2:**			
PO6			
Action 1: **Action2:**			
PO7			
Action 1: **Action2:**			
PO8			
Action 1: **Action2:**			
PO9			
Action 1: **Action2:**			
PO10			
Action 1: **Action2:**			
PO11			
Action 1: **Action2:**			
PO12			
Action 1: **Action2:**			

As each PO is addressed through several courses observation and actions should be presented with respects to all relevant curses.

Similar Tables should be presented for LYGm1 and LYG

7.2 Improvement in Success Index of Students without the backlog (10) (15)

Items	LYG	LYG*m1*	LYG*m2*
Success index (from 4.1.1)			

SI= (Number of students who graduated from the programme without backlog)/(Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry)

Assessment shall be based on improvement trends in success indices. Marks are awarded accordingly.

7.3. Improvement in Placement and Higher Studies (10) (20)

Assessment is based on improvement in:

- *Placement: number, quality placement, core industry, pay packages etc.*
- *Higher studies: performance in GATE, GRE, GMAT, CAT etc., and admissions in premier institutions*

Items	LYG	LYG*m1*	LYG*m2*
Placement index (from 4.5)			

7.4. Improvement in the quality of students admitted to the programme (10) (15)

Assessment is based on improvement in terms of ranks/score in qualifying state level/national level entrances tests, percentage Physics, Chemistry and Mathematics marks in 12th Standard and percentage marks of the lateral entry students

Item		CAY	CAYm1	CAYm2
National Level Entrance Examination (Name of the Entrance Examination)	**No. of Students admitted**			
	Opening Score/Rank			
	Closing Score/Rank			
State/University/ Level Entrance Examination/Others (Name of the Entrance Examination)	**No. of Students admitted**			
	Opening Score/Rank			
	Closing Score/Rank			
Name of the Entrance Examination for Lateral Entry Students	**No. of Students admitted**			
	Opening Score/Rank			
	Closing Score/Rank			
Average CBSE Result of admitted students (Physics, Chemistry & Maths)				

Example:

Item		CAY	CAYm1	CAYm2
JEE	No. of Students admitted	50	40	45
	Opening Score/Rank	5394	6000	5000
	Closing Score/Rank	17960	15000	16000
University Entrance Examination	No. of Students admitted	50	30	20
	Opening Score/Rank	600	800	700
	Closing Score/Rank	1000	1200	1012
Entrance Examination for Lateral Entry	No. of Students admitted	20	12	15
	Opening Score/Rank	100	200	150
	Closing Score/Rank	500	600	450
Average CBSE Result of admitted students (Physics, Chemistry & Maths)		78%	76%	82%

CRITERION VIII	First Year Academics	50 First Time	50 Reaccreditation

8. First Year Academics (50) (50)

8.1. First Year Student- Teacher Ratio (FYSTR) (5)(5)

Data for first year courses to calculate the FYSTR:

Year	Number of students (approved intake strength)	Number of faculty members (considering fractional load)	FYSTR	Assessment = (5 × 15)/ FYSTR (Max. is 5)
CAY*m*2				
CAY*m*1				
CAY				
Average				

8.2. Qualification of Faculty Teaching First Year Common Courses (5) (5)

Assessment of qualification = $4 \times (5x + 3y)/RT$

x = Number of teachers with PhD

y = Number of teachers with Post-graduate qualification

RT = Number of faculty members needed as per STR of 15:1

Year	*x*	*Y*	*RT*	Assessment of faculty qualification $4 \times (5x + 3y)/RT$
CAY*m*2				
CAY*m*1				
CAY				
Average Assessment				

8.3. First Year Academic Performance (10)(10)

Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks in First Year of all successful students/10)) x (successful students/number of students appeared in the examination)

Successful students are those who passed in all the first year courses

8.4. Attainment of Course Outcomes of first year courses (10) (10)

8.4.1. Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is based (5) (5)

(Examples of data collection processes may include, but are not limited to, specific exam questions, laboratory tests, internally developed assessment exams, oral exams etc.)

8.4.2. Record the attainment of Course Outcomes of all first year courses (5) (5)

Programme shall have set attainment levels for all first year courses.

(The attainment levels shall be set considering average performance levels in the university examination for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect the COs of a subject plus the performance in the University examination)

Refer to 3.2.2 for further details

8.5. Attainment of Programme Outcomes of all first year courses (20) (20)

8.5.1. Indicate results of evaluation of each relevant PO (15) (15)

Programme shall set Programme Outcome attainment levels for all POs through first year courses.

(Describe the assessment processes that demonstrate the degree to which the Programme Outcomes are attained through first year courses and document the attainment levels. Also include information on assessment processes used to gather the data upon which the evaluation of each the Programme Outcome is based indicating the frequency with which these processes are carried out)

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												
…												
….												
...												
Direct Attainment												

- Direct attainment level of a PO is determined by taking average across all courses addressing that PO. Fractional numbers may be used for example 1.55.

8.5.2. Actions taken based on the results of evaluation of POs (5) (5)

(The attainment levels by direct (student performance) are to be presented through Programme level Course-PO matrix as indicated)

PO Attainment Levels and Actions for improvement CAYm2

	Target Level	**Attainment Level**	**Observations**
PO1			
Action 1: **Action2:**			
PO2			
Action 1: **Action2:**			
PO3			

Action 1: **Action2:**				
PO4				
Action 1: **Action2:**				
PO5				
Action 1: **Action2:**				
PO6				
Action 1: **Action2:**				
PO7				
Action 1: **Action2:**				
PO8				
Action 1: **Action2:**				
PO9				
Action 1: **Action2:**				
PO10				
Action 1: **Action2:**				
PO11				
Action 1: **Action2:**				
PO12				
Action 1: **Action2:**				

As each PO is addressed through several courses observation and actions should be presented with respects to all relevant curses.

Similar Tables should be presented for CAYm1 and CAY

CRITERION IX	Student Support Systems	50 First Time	50 Reaccreditation

9. Student Support Systems

9.1. Mentoring system to help at individual levels (5) (5)

Type of mentoring: Professional guidance / career advancement / course work specific / laboratory specific / allround development
Number of faculty mentors:
Number of students per mentor:
Frequency of meeting:

(The institution may report the details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system here)

9.2. Feedback analysis and reward /corrective measures taken, if any (10) (10)

Feedback collected for all courses: YES/NO
Specify the feedback collection process:
Percentage of students who participated:
Specify the feedback analysis process:
Basis of reward / corrective measures, if any:
Number of corrective actions taken in the last three years:

(The institution needs to design an effective feedback questionnaire. It needs to justify that the feedback mechanism developed by the institution really helps to evaluate teaching, and finally, contributes to the quality of teaching and ensure attainment of set levels for each PO)

9.3. Feedback on facilities (5)(5)

Assessment is based on feedback collection, analysis and corrective action taken in respect of library, computing facilities, relevant licensed software, canteen, sports etc.

9.4. Self Learning (5) (5)

(*The institution needs to specify the facilities, materials and scope for self-learning / learning beyond syllabus and creation of facilities for self-learning / learning beyond syllabus*)

9.5. Career Guidance, Training, Placement (10)(10)

(*The institution may specify the facility, its management and its effectiveness for career guidance including counselling for higher studies, campus placement support, industry interaction for training/internship/placement, etc.)*

9.6. Entrepreneurship Cell (5)(5)

(*The institution may describe the facility, its management and its effectiveness in encouraging entrepreneurship and incubation*)

9.7. Co-curricular and Extra-curricular Activities (10)(10)

(*The institution may specify the co-curricular and extra-curricular activities*)

CRITERION X	Governance, Institutional Support and Financial Resources	150 First Time	100* Reaccreditation

***** Evidences of processes followed effectively

10. Governance, Institutional support and Financial Resources (150) (100)

10.1. Organization, Governance and Transparency (60) (40)

10.1.1. Governing body, administrative setup, and functions of various bodies (10) (10)

List the governing, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance therein, in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed.

10.1.2. Defined rules, procedures, recruitment, and promotional policies, etc. (10) (5)

List the published rules, policies, and procedures; year of publications; and state the extent of awareness among the employees/students.

10.1.3. Decentralisation in working and grievance redressal mechanism (10) (5)

List the names of the faculty members who are administrators/decision makers for various responsibilities. Specify the mechanism and composition of grievance redressal cell.

10.1.4. Delegation of financial powers (20) (10)

Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges. Demonstrate the utilization of financial powers for each year of the assessment years.

10.1.5. Transparency and availability of correct/unambiguous information in public domain (10) (10)

(Information on the policies, rules, processes is to be made available on web site. Provision of information in accordance with the Right to Information Act, 2005)

10.2. Budget Allocation, Utilization, and Public Accounting at Institute level (30) (20)

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years.

Items	Budgeted in CFY	Actual expenses in CFY (till …)	Budgeted in CFY*m*1	Actual Expenses in CFY*m*1	Budgeted in CFY*m*2	Actual Expenses in CFY*m*2	Budgeted in CFY*m*3	Actual Expenses in CFY*m*3
Infrastructure Built-Up								
Library								
Laboratory equipment								
Laboratory consumables								
Teaching and non-teaching staff salary								
R&D								
Training and Travel								
Other, specify								
Total								

10.2.1. Adequacy of budget allocation (10) (5)

(The institution needs to justify that the budget allocated over the years was adequate)

10.2.2. Utilization of allocated funds (15) (10)

(The institution needs to state how the budget was utilised during the last three years)

10.2.3. Availability of the audited statements on the institute's website (5) (5)

(The institution needs to make audited statements available on its website)

10.3. Programme Specific Budget Allocation, Utilisation (30) (20)

Items	**Budgeted in CFY**	**Actual expenses in CFY (till …)**	**Budgeted in CFY*m*1**	**Actual Expenses in CFY*m*1**	**Budgeted in CFY*m*2**	**Actual Expenses in CFY*m*2**	**Budgeted in CFY*m*3**	**Actual Expenses in CFY*m*3**
Laboratory equipment								
Software								
Laboratory consumable								
Maintenance and spares								
Training and Travel								
Miscellaneous expenses for academic activities								
Total								

10.3.1. Adequacy of budget allocation (10) (5)

(In this section, the institution needs to justify that the budget allocated over the assesment years was adequate)

10.3.2. Utilization of allocated funds (20)(15)

(In this section, the institution needs to state how the budget was utilised during the last three assessment years)

10.4. *Library and Internet (30)(20)*

(It is assumed that zero deficiency report was received by the institution, Effective availability and utilization to be demonstrated)

10.4.1. Quality of learning resources (hard/soft) (15)(10)

- Relevance of available learning resources including e-resources
- Accessibility to students

10.4.2. Internet (15)(10)

- Name of the Internet provider:
- Available bandwidth:
- Wi Fi availability
- Internet access in labs, classrooms, library and offices of all Departments:
- Security arrangements

Declaration

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

This Self-Assessment Report (SAR) is prepared for the current academic year (_____) and the current financial year (_____) on behalf of the institution.

I certify that the information provided in this SAR is correct and complete to the best of my knowledge.

I understand that any false statement/information of consequence may lead to rejection of the application for the accreditation for a period of two or more years. I also understand that the National Board of Accreditation (NBA) or its sub-committees will have the right to decide on the basis of the submitted SAR whether the institution should be considered for an accreditation visit.

If the information provided in the SAR is found to be wrong during the visit or subsequent to grant of accreditation, the NBA has the right to withdraw the grant of accreditation and no accreditation will be allowed for a period of next two years or more, and the fee will be forfeited.

I undertake that the institution shall co-operate the visiting accreditation team, shall provide all desired information during the visit and arrange for the meeting as required for accreditation as per the NBA's provision/guidelines.

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

Place:

Date:

Signature, Name, and Designation of the Head of the Institution with seal