

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation for the solution of complex engineering problems.		
Parameter	1. Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Apply Mathematics & Basic Science	<p>Appreciates that systems & processes to be designed or improved require a sound foundation in mathematics, physics, chemistry, and biology. Mathematical and scientific terms are interpreted incorrectly. Can apply mathematical, statistical, or scientific theories and concepts to solve problems, but errors are made. Modelling and calculations have 3 or more errors.</p>	<p>Can apply mathematical and/or scientific principles to design or improve systems and processes. Mathematical and scientific terms are interpreted correctly. Can apply mathematical, statistical, or scientific theories and concepts to solve problems, but with a few errors. Modeling and calculations have very few errors.</p>	<p>Excels in applying mathematical and/or scientific principles to design or improve systems and processes. Excellent interpretation of mathematical, statistical, and scientific terms. Excels in using mathematical, statistical, or scientific theories and concepts to solve problems. Modeling and calculations are done correctly.</p>
Apply General Engineering knowledge	<p>Modelling, graphics and calculations have 3 or more errors.</p>	<p>Modelling, graphics, and calculations have very few errors.</p>	<p>Modelling, graphics, and calculations are done correctly using a variety of software.</p>
Apply IE(Industrial Engineering) Fundamental concepts	<p>Makes unrealistic assumptions to develop models of system and process. Knows the difference between a system and a model of that system, but cannot validate models. Can apply statistical techniques to model, study, analyse, design, or improve systems, but makes many errors.</p>	<p>Can translate theories or make realistic assumptions to develop models of systems and processes. Knows the difference between a system and a model of that system, but is not very good at model validation approaches. Can apply statistical techniques to model, study, analyze, design, or improve systems with very few errors.</p>	<p>Excels in using theories, making realistic assumptions and developing good models of systems and processes. Accepts limitations of IE & mathematical models of systems and processes & establishes validity of models before using them to make decisions. Excels in applying statistical techniques to model, study, analyse, design, or improve systems.</p>

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO2	Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.		
Parameter	1. Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Strategy	Fair in locating resources, integrating knowledge and experience , and formulating a good strategy to solve engineering problems.	Good at locating resources, integrating knowledge and experience, and formulating a good strategy to solve engineering problems.	Excellent in locating resources , integrating knowledge and experience, and formulating a good strategy to solve engineering problems.
Tools Used	Fair use of multiple tools, techniques, and software for analysing existing systems and solving problems. Fair in applying multiple tools to solve problems related to synthesis of new systems.	Good at multiple tools, techniques, and software for analyzing existing systems and solving problems. Good in applying multiple tools to solve problems related to synthesis of new systems.	Excels in multiple tools, techniques, and software for analyzing existing systems and solving problems. Excels at applying multiple tools to solve problems related to synthesis of new systems.
Solution and Approach	Can breakdown complex problems into sub problems and apply theoretical concepts, but makes many errors. Needs to be shown how various pieces of the large problem relate to each other and the whole system. Needs help in taking into account practical constraints (social, environmental, and other). Can generate one alternative only or needs some help.	Can breakdown complex problems into sub problems and apply theoretical concepts, but makes a few errors. Knows how various pieces of the large problem relate to each other and the whole system, but makes a few errors. Good at taking into account practical constraints (social, environmental, and other). Generates very few alternatives and compare them.	Can breakdown complex problems into sub problems and apply theoretical concepts. Understands how various pieces of the large problem relate to each other and the whole system. Excels in taking into account practical constraints (social, environmental, and other). Generates many alternatives and compares them.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING **PO'S****

P03:	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Design Strategy	Recognizes the need for a design strategy, but needs an example and guidance.	Develops a design strategy independently with a few errors. May need correction or some aspects need embellishments.	Develops a design strategy, including a plan of attack, decomposition of work into subtasks, and development of a timeline using Gantt chart. No changes needed to the developed strategy.
Applying Engineering and Science Knowledge	Fair in applying engineering and/or scientific principles correctly to design practical components, processes, or systems.	Good at applying engineering and/or scientific principles correctly to design practical components, processes, or systems.	Excellent in applying engineering and/or scientific principles correctly to design practical components, processes, or systems.
Constraints Identified and taken into Account	Realizes that there are economic, safety, environmental, and other constraints, but needs help to generate realistic designs that customers will prefer.	Some constraints are not taken into account in designing components, processes, or systems.	Takes into account economic, safety, environmental, and other constraints to generate realistic designs that customers will prefer.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO4:	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Problem Recognition and Statement	Understands the system, inputs, outputs, and noise factors. Can develop problem statement, but critical information is left out.	Understands the system, inputs, outputs, and noise factors. Can develop problem statement satisfactorily.	Excellent knowledge of system, inputs, outputs, noise factors, etc. Uses that knowledge to define problem clearly.
Choice of DOE Model	Can choose the model, but needs reassurance from a mentor. Can recognize controllable noise factors and use blocking.	Can choose model correctly and confidently. Applies blocking where necessary.	Not only chooses models correctly, but also knows how to improve the model through sequential experiments.
Perform Experiments	Knows the difference between repetition and replication, but needs reassurance. Can determine ample size, but needs reassurance and help with experiments and collection of data.	Determines the need for repetition or replication, calculates sample size, conducts experiments confidently, and collects data in an organized manner.	Excellent knowledge of repetition or replication. Knows many methods to calculate sample size. Plans, organizes, & conducts experiments well. Uses data collection forms.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING **PO'S****

PO5:	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Apply Operations Research Models and Techniques	Good at applying deterministic models. Good at applying Markov processes and queuing models.	Very good at applying deterministic models. Very good at applying Markov processes and queuing models.	Excellent in applying deterministic models. Excellent in applying Markov processes and queuing models.
Apply Work Measurement Techniques	Good at applying work measurement techniques.	Very good at applying work measurement techniques.	Excellent in applying work measurement techniques.
Problem Def., Soln. Strategy, & Research	Good in problem definition, solution, strategy, and research.	Very good in problem definition, solution, strategy, and research.	Excellent in problem definition, solution, strategy, and research.
TeamSkills, Pres., & Comm.	Good team and communication skills.	Very good team and communication skills.	Excellent team and communication skills.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING **PO'S****

P06:	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Services to Profession and Society	Not a member, but will become a member and try to be active.	Member now and may be active in the future.	Has demonstrated dedicated leadership roles on campus and may continue in future.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

P07:	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts/and demonstrate the knowledge of, and need for sustainable development.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Understanding of Impact of Engineering Solutions in Global and societal Context	Has a good knowledge of 1 or more international standards that can alleviate the adverse impact of engineering solutions in global and societal context. Will use a strategy for harmonizing standards and management systems for quality, environment, social responsibility, etc., if details are provided.	Has a very good knowledge of 1 or more international standards that can alleviate the adverse impact of engineering solutions in global and societal context. Understands the need for a strategy for harmonizing standards and management systems for quality, environment, social responsibility, etc.	Has excellent knowledge of 3 or more international standards that can alleviate the adverse impact of engineering solutions in global and societal context . Can implement a strategy for harmonizing standards and management systems for quality, environment, social responsibility, etc.
Familiarity with Applications of IE Tools, Methods & Techniques in Global and Societal Context	Will locate resources (libraries, websites, journals, magazines, etc) on 2 or more applications when necessary. Will read papers from one of the above resources only when a need arises.	Good at locating resources (libraries, websites, journals, magazines, etc) on 2 or more applications. Has acquired and read one paper from one of the above resources.	Excels in locating resources (libraries, websites, journals, magazines, etc) on 2 or more applications. Has acquired and read more than one paper from one of the above resources.
Breath and Depth of the Impact of Engineering Solutions in Global and Societal Context	Needs examples and instructions for applying IE methods to analyze global and social issues. Will review and write a report on specific IE methods applied to analyze global and social issues when required.	Is familiar with at least one specific IE method applied to analyze global and social issues. Has reviewed and written a report on one specific IE method applied to analyze global and social issues.	Is familiar with at least two specific IE methods applied to analyze global and social issues. Has reviewed and written a report on Neo or more specific IE methods applied to analyze global and social issues.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING **PO'S****

P08:	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Knowledge of Professional Code of Ethics	Knows about the code of ethics of a society, and will access and use them when ethical problems are faced.	Knows where to access code of ethics of at least 1 professional society. Has read and demonstrated adequate knowledge of at least one professional code of ethics.	Knows where to access code of ethics of 2 or more Professional societies. Has read and demonstrated excellent knowledge of at least one professional code of ethics.
Ability to Recognize Ethical Dilemmas	Will learn to apply the code of ethics from professional societies and/or ethical theories to recognize ethical dilemmas when necessary.	Can apply at least 1 code of ethics from a professional society and/or ethical theory to recognize ethical dilemmas and analyze them.	Can apply the code of ethics from professional societies and/or ethical theories to recognize ethical dilemmas and analyze them in many ways.
Analyze Ethical Problems in IE Work and Make Decisions	Has ability to analyze ethical problems in IE work through case studies, but is not interested. Has generated fair solutions and made fair decisions in the IE field.	Has demonstrated good ability to analyze ethical problems in IE work through case studies. Has generated good solutions and made good decisions in the IE field.	Has demonstrated excellent ability to analyze ethical problems in IE work through case studies. Has generated excellent solutions and made sound decisions in the IE field.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

P09:	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Take Responsibility	Needs prompting from team leader to be organized and keep track of assigned work and due dates. May be tardy sometimes. Shares information & experience sometimes. Must be assigned work and due date, but will not share work and responsibility.	Organized. Will assume team member roles most of the time. Tardy a few times. Shares information & experience most of the time. Remembers work to be done and due dates, but may forget a few.	Well organized. Has many abilities and volunteers to do team work Never tardy. Shares information & experience always. Writes assignments and deadlines. Delivers work on time.
Contribution to Team Effort & Work	Will do research and gather information and data if reminded often. Will provide innovative ideas, generate creative solutions, and generate good alternative solutions if reminded often. Not prepared for team meetings sometimes.	Will do research and gather information and data if requested. Will provide innovative ideas, generate creative solutions, and generate good alternative solutions if prompted. Not prepared for team meetings once or twice.	Has the initiative to do research, provides innovative ideas, generates creative solutions, and generates good alternative solutions. Always prepared for team meetings.
Respect, Civility, Communication	Courteous to all sometimes. Provides positive feedback sometimes. Values others' viewpoints sometimes. Listening skills need improvement.	Usually courteous to all. Provides positive feedback when necessary. Values others' viewpoints almost always. Has good listening skills, attention fades occasionally.	Courteous and Nonjudgmental always. Participates in discussions, respects colleagues, makes significant contributions while discussing others' work, values others' viewpoints, & functions effectively as a team member.
Knowledge of other Disciplines	Does not have knowledge of technical skills, issues, and approaches germane to disciplines outside of IE, but will acquire them when needed.	Has elementary knowledge of technical skills, issues, and approaches germane to disciplines outside of IE, but will augment when needed.	Has very good knowledge of technical skills, issues, and approaches germane to disciplines outside of IE.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO10:	Communication: Communicate effectively on complex engineering activities with the engineering community and with the society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Oral Communication Organization & Structure	presentation due to erratic topical shifts and jumps.	Most information is presented in logical order and is easy to follow.	presented in a logical, interesting and novel sequence and is easy to follow.
Oral Communication Delivery & Speaking Skills	Occasional mispronunciation of terms. Uses appropriate vocabulary. Little eye contact, uneven rate, or only little expression.	Voice is clear and at a proper level. Most words pronounced correctly. Some eye contact, steady rate, and adequately rehearsed.	Clear voice and correct pronunciation of terms. Good eye contact, steady rate, enthusiasm, or confidence.
Oral Communication Personal Appearance & Rapport with Audience	Appearance marginally acceptable. Responds to questions and comments, but is not at ease or confident. Length is adequate.	Appearance is good. Responds to questions and comments well. Length is acceptable.	Appearance is professional. Responds to questions and comments confidently. Length is appropriate.
Written Communication Organization & Style	Work is hard to follow as there is very little continuity. Purpose Of work is stated, but does not assistin following work.	Information is presented in a logical manner, which is easily followed. purpose of work is clearly stated and assists the structure of work.	presented in a logical, interesting way, which is easy to follow. Purpose is clearly stated and explains the structure of work.
Written Communication Format & Aesthetics	Mostly consistent format. Figures and tables are legible, but not convincing.	Format is generally consistent including heading styles and captions. Figures and tables are neatly done and provide intended information.	Format is consistent throughout including heading styles and captions. Figures and tables are presented logically and reinforce the text.
Written Communication Spelling &	Several spelling and grammatical errors.	Minor misspellings and/or grammatical errors.	Negligible misspellings and/or grammatical errors.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO11:	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Knowledge of Job Market	Poor knowledge of job market and relies on the Placement Services.	Good knowledge of job market and is building a network to seek information.	Excellent knowledge of job market and has an excellent network to seek information.
Planning Budget, Insurance, & Investment,	Has some ideas of personal budget, savings & investment, but is not concerned.	Has a good basis for preparing yearly personal budget showing all costs, savings, and investment	Has sound basis for preparing yearly personal budget showing all costs, savings, and investment
Ability to Engage in Conversation about Political, Economic, National, Regional, and international Events or Issues	Plans to read newspaper or magazines in future. Plans to use the Web to keep current. Makes minor contributions to discussions.	Reads newspaper or magazines randomly. Uses the Web to keep current randomly. Does contribute to discussions.	Reads newspaper and current magazines on a regular basis. Uses the Web to keep current daily. Can make substantial contribution to discussions.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NARULA INSTITUTE OF TECHNOLOGY
RUBRICS FOR VALIDATING PO'S**

PO12:	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological Change.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Ability to Locate and Use Resources on the Web	Uses limited resources at websites dealing with IE topics when the URLs are provided.	Uses all web resources when URLs are provided and attempts to locate and use a few additional web resources.	Uses websites listed by instructor and does extensive search to locate and use more than 5 other sources.
Ability to Locate & Learn from Recent Publications IE	Has fair plan and demonstrated ability for life-long learning. Has fair ability to think, learn from mistakes, and apply new concepts.	Has good plan and demonstrated ability for life-long learning. Has good ability to think, learn from mistakes, and apply new concepts.	Has excellent plan and demonstrated ability for life-long learning. Has excellent ability to think, learn from mistakes, and apply new concepts.
Familiarity with Services Provided Professional Societies	Plans to be a member in 1 professional society. Does not have leadership role in professional or other societies on campus. Will seek courses or resources available from societies when needed. May use some services provided by the society in the future.	Member of 1 Professional society. Has leadership role in 1 professional society on campus. Knows that the website for the society lists courses on current topics and resources available. Has used a magazine or book from a professional society.	Member of 2 or more Professional society. Has leadership role in 2 or more professional or other societies on campus. Aware of courses on the current topics and resources available at the website for the society. Has used 2 or more services provided by a professional society.
Ability to Use Reference Books, Books, Periodicals, and Archives, & Inter- Library Loans in Libraries	Has demonstrated fair ability to acquire books and journal articles, understand, interpret, and apply current, new, or innovative concepts in IE and related fields.	Has demonstrated very good ability to acquire books and journal articles, understand, interpret, and apply current, new, or innovative concepts in IE and related fields.	Has demonstrated excellent ability to acquire books and journal articles, understand, interpret, and apply current, new, or innovative concepts in IE and related fields.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING			
NARULA INSTITUTE OF TECHNOLOGY			
RUBRICS FOR VALIDATING POs/ PSOs (B. Tech. in CSE)			
PSO1:	The ability to understand, illustrate, discuss, explain the fundamental design and working principle of any existing or new computing model or concept related to the field of computer science and engineering and analyze the utility of the model or concept in respect of its capability of addressing and solving the relevant issues or problems.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
The ability to understand, illustrate, discuss, explain the fundamental design and working principle of any existing or new computing model or concept related to the field of computer science and engineering	If less than 50% of students are able to adapt existing models, techniques, algorithms, data structures	If 50% ≤ No. of students able to adapt existing models, techniques, algorithms, data structures <75%	If No. of students able to adapt existing models, techniques, algorithms, data structures to write a substantial technical report/document is ≥75%
Analyze the utility of the model or concept in respect of its capability of addressing and solving the relevant issues or problems.	If less than 50% of students are able to efficiently solve problems	If 50% ≤ No. of students able to efficiently solve problems <75%	If No. of students able to efficiently solve problems ≥75%

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING			
NARULA INSTITUTE OF TECHNOLOGY			
RUBRICS FOR VALIDATING POs/ PSOs (B. Tech. in CSE)			
PSO2:	The ability to identify and formulate a problem within the scope of computer science and engineering domain for proposing software application-based or research-based solution models with adequate justification by applying the relevant domain knowledge.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
Ability to identify and formulate a problem within the scope of computer science and engineering domain	If less than 50% of students are able to write a substantial technical report/document	If 50% ≤ No. of students able to write a substantial technical report/document <75%	If No. of students able to write a substantial technical report/document is ≥75%
Applying the relevant domain knowledge while proposing software application-based or research-based solution models with adequate justification	If less than 50% of students are able to present a substantial technical report/document	If 50% ≤ No. of students able to present a substantial technical report/document <75%	If No. of students able to present a substantial technical report/document is ≥75%

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING			
NARULA INSTITUTE OF TECHNOLOGY			
RUBRICS FOR VALIDATING POs/PSOs (B. Tech. in CSE)			
PSO3:	The ability to ideate, design, implements and analyze a solution proposal with proper documentation demonstrating adequate software engineering management skill along with the necessary technical skill for driving propensity towards technological innovation boosted with research and entrepreneurial aptitude for producing globally competent engineering professionals capable of making meaningful contributions in the field of computer science and engineering.		
Parameter	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
The ability to ideate, design, implements and analyze a solution proposal with proper documentation demonstrating adequate software engineering management skill	If less than 50% of students are able to write a substantial technical report/document	If 50% <= No. of students able to write a substantial technical report/document <75%	If No. of students able to write a substantial technical report/document is >=75%
Capable of producing globally competent engineering professionals capable of making meaningful contributions in the field of computer science and engineering.	If less than 50% of students are able to present a substantial technical report/document	If 50% <= No. of students able to present a substantial technical report/document <75%	If No. of students able to present a substantial technical report/document is >=75%

RUBRICS FOLLOWED TO EVALUATE THE **LAB COURSES**

1. Attendance (5)

Parameter	Allocated marks	Low	Medium	High
Attendance	5	The student has attended less than 75% of the total number of classes.	The student has attended 75% to 85% of the total number of classes.	More than 85% of total classes have been attended by the student.
		0	1-3 marks	4-5 marks

2. Continuous performance (10)

Parameter	Allocated marks	Low	Medium	High
Continuous performance	10	The student has not performed anything during laboratory periods	The student has given satisfactory performance during laboratory periods	The student has given excellent performance or has completed all the tasks given during laboratory periods.
		0	1-7 marks	8-10 marks

3. Laboratory reports (15)

Parameter	Allocated marks	Low	Medium	High
Laboratory reports	15	The student has not submitted a laboratory report before the semester examination	The lab copy was submitted but was incomplete	The lab report submitted was Complete
		0	1-12 marks	13-15 marks

4. Initiative and intensity to learn (10)

Parameter	Allocated marks	Low	Medium	High
Initiative and intensity to learn	10	Students have shown no interest or initiative to learn anything during	Initiatives taken by the students were satisfactory	Initiatives taken by the students have helped them to complete all the

		laboratory periods		tasks on time
		0	1-7 marks	8-10 marks

5. Experiment (40):

Parameter	Allocated marks	Low	Medium	High
Experiment	40	The student was not able to perform the job, given during the semester laboratory examination	The student was partially able to perform the job during the semester laboratory examination	The student was able to perform the job accurately during the semester laboratory examination
		0	1-30 marks	30-40 marks

6. Viva-voce (20)

Parameter	Allocated marks	Low	Medium	High
Viva-voce	20	The student was not able to answer anything during viva-voce	The student was able to answer a few questions during viva-voce	The student was able to answer all the questions during viva-voce
		0	1-15 marks	16-20 marks

Level 1: Continuous Evaluation in every lab session (10 marks)

The Continuous Evaluation is done by the faculty in every lab session for 10 marks based on rubrics defined in the table and the average marks of all sessions will be considered for awarding final internal assessment marks.

Students shall carry out laboratory work and are encouraged to use modern tools, available in the lab for executing the experiments. It is also supported with a designed manual developed by the faculty and staff. The students are expected to submit the assignments in a prescribed timeline and demonstrate the same to faculty. This is documented in laboratory copy.

Parameter	Allocated Marks	LOW	MEDIUM	HIGH
Viva-voce	2	The student did not answer any viva questions asked	The student answered few viva questions asked	The student answered all viva questions asked
		0 mark	1 mark	02 marks
Lab copywriting	8	The lab copy was not submitted in the lab session	The lab copy was submitted in the lab session but was incomplete	Completed lab copy was submitted in the lab session
		0 mark	1-4 marks	5-8 marks

Level 2: Open Ended Experiment (10 marks)

For B.Tech students, Open Ended Experiment was conducted and evaluated for 10 marks. The below noted Table shows the Rubric for Assessment of Open Ended Lab Experiment for students.

Parameter	Allocated Marks	LOW	MEDIUM	HIGH
Background Knowledge	02	Sufficient study and half of the questions have been answered correctly.	Adequate study and more than half of the questions have been answered correctly.	Thorough study and all the questions have been answered correctly.
		0 marks	1 mark	2 marks
Design	06	Inappropriate	Design	Design documentation is appropriately detailed and structured for the intended Purpose.
		Design and contains few technical errors.	documentation is appropriately detailed and structured for the intended Purpose with less information	
		0 marks	4 marks	6 marks

Logic Construction	02	Significant findings are summarized. Acceptable conclusion. Acceptable suggestion for further research.	Significant findings are summarized. Good conclusion. Good suggestion for further research.	Significant findings are summarized. Precisely concluded. Excellent suggestion for further research
		0 marks	1 mark	2 marks
Documentation	02	The requirements of document writing are not properly addressed.	Document meets all prescribed requirements.	Document meets all requirements and it is prepared in original and creative way to engage readers.
		0 marks	1 mark	2 marks

Level 3: Lab Internal

The Lab Internals are conducted as per the prescribed guidelines given below. The Evaluation is carried out based on the rubrics defined in the below noted table.

Parameter	Allocated Marks	LOW	MEDIUM	HIGH
Question Write-up	06	The Student was not able to write anything	The Student was able to write with mistakes	The Student was able to write correctly
		0 marks	2-4 marks	6 marks
Execution of job	10	The Student was not able to perform the job	The Student was partially able to perform the job	The Student was able to perform the job accurately
		0 marks	3-6 marks	10 marks
Viva-voce	04	The student did not answered any viva - voce asked	The student answered few viva- voce asked	The student answered all viva- voce questions asked
		0 marks	2 marks	4 marks

RUBRICS FOLLOWED TO EVALUATE SEMINAR

Department of Computer Science and Engineering									
Narula Institute of Technology									
Academic Session:-			Year: -			Name:-			
Roll No.:-						Paper code:-			
	Indicator	Inadequate(1)	Average (2)	Good (3)	Outstanding(4)	Mark Selected	Weightage	Marks Obtained	
Knowledge and Content	Organization of presentation	Hard to follow; sequence of information jumpy	Most of information presented in sequence	Information presented in logical sequence; easy to follow	Information presented as interesting story in logical, easy to follow sequence		3		
	Background content	Material not clearly related to topic OR background dominated seminar	Material sufficient for clear understanding but not clearly presented	Material sufficient for clear understanding AND effectively presented	Material sufficient for clear understanding AND exceptionally presented		3		
	Methods	Methods too brief or insufficient for adequate understanding OR too detailed	Sufficient for understanding but not clearly presented	Sufficient for understanding AND effectively presented	Sufficient for understanding AND exceptionally presented		3		
	Results (figures, graphs, tables, etc.)		Some figures hard to read	Majority of figures clear	Most figures clear	All figures clear		3	
			Some in inappropriate format	Majority appropriately formatted	Most appropriately formatted	All appropriately formatted			
			Some explanations lacking	Reasonably explained	Well explained	Exceptionally explained			
Knowledge of subject	Does not have grasp of information; answered only rudimentary questions	At ease with information; answered most questions	At ease; answered all questions but failed to elaborate	Demonstrated full knowledge; answered all questions with elaboration		3			
Presentation Skills	Graphics (use of Powerpoint)	Uses graphics that rarely support text and presentation	Uses graphics that relate to text and presentation	Uses graphics that explain text and presentation	Uses graphics that explain and reinforce text and presentation		2		
	Mechanics	Presentation has more than 10 misspellings	Presentation has no more than 5 misspellings	Presentation has no more than 2 misspellings	Presentation has no misspellings or		2		

Department of Computer Science and Engineering

Narula Institute of Technology

Academic Session:-

Year: -

Name:-

Roll No.:-

Paper code:-

	Indicator	Inadequate(1)	Average (2)	Good (3)	Outstanding(4)	Mark Selected	Weightage	Marks Obtained
		and/or grammatical errors	and/or grammatical errors	and/or grammatical errors	grammatical errors			
	Eye Contact	Reads most slides; no or just occasional eye contact.	Refers to slides to make points; occasional eye contact	Refers to slides to make points; eye contact majority of time contact	Refers to slides to make points; engaged with audience		2	
	Elocution - ability to speak English language	Mumbles and/or incorrectly pronounces some terms Voice is low; difficult to hear	Incorrectly pronounces some terms Voice fluctuates from low to clear; difficult to hear at times	Incorrectly pronounces few terms Voice is clear with few fluctuations; audience can hear well most of the time	Correct, precise pronunciation of all terms Voice is clear and steady; audience can hear well at all times		2	
	Length and Pace	Short; less than 30 min Rushed OR dragging throughout.	Short 40 min OR long >50 Rushed OR dragging in part	Adequate 40-45 min Most of the seminar well-paced.	Appropriate (45-50 min) Well-paced throughout		2	

RUBRICS FOLLOWED TO EVALUATE PROJECT

Department of Computer Science and Engineering								
Narula Institute of Technology								
Academic Session:-			Year: -			Name: -		
Roll No.:-						Paper code:-		
Indicator	Poor (2)	Acceptable(4)	Average (6)	Good (8)	Excellent (10)	Mark Selected	Weightage	Marks Obtained
Planning & time management	Procrastination lead to incomplete project	Little planning or forethought Project hastily completed for deadline	Basic planning and time management needs necessary for project completion met	Planning and time management exhibited enhance the overall project	Exhibits a professional level of planning and time management		1	
Identification of Problem Domain and Detailed Analysis	Minimal explanation of the purpose and the need of the project	Moderate explanation of the purpose and the need of the project	Average explanation of the purpose and the need of the project	Good explanation of the purpose and the need of the project	Detailed and extensive explanation of the purpose and need of the project		1	
Study of the Existing Systems and Feasibility of the Project Proposal	Minimal Explanation of the Specifications and the limitation sof the existing system; incomplete Information.	Explanation of the Specifications and the limitations of the existing system not very satisfactory; Limited Information.	Moderate study of the existing systems; collects some basic information	Collects a great deal of information and good study of the existing systems;	Detailed and extensive explanation of the specifications and the limitations of the existing systems		1	
Objectives and Methodology of the Proposed Work	Objectives of the proposed work are either not identified or not well defined; Incomplete and improper specification	Only Some objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are not specified properly	Incomplete justification to the objectives proposed; Steps are mentioned but unclear; without justification to objectives	Good justification to the objectives; Methodology to be followed is specified but detailing is not done	All objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are clearly specified		1	
Demonstrations and Presentation	No objectives achieved; Contents of presentations	Objectives not achieved as per time frame; Contents	Objectives achieved as per time frame;	Objectives achieved as per time frame;	Objectives achieved as per time frame;		1	

Department of Computer Science and Engineering

Narula Institute of Technology

Academic Session:-

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Indicator	Poor (2)	Acceptable(4)	Average (6)	Good (8)	Excellent (10)	Mark Selected	Weightage	Marks Obtained
	are not appropriate and not well delivered; Poor delivery of presentation	of presentations are not appropriate; Eye contact with few people and unclear voice	Contents of presentations are appropriate but not well arranged; Presentation not satisfactory and average demonstration	Contents of presentations are appropriate but not well arranged; Satisfactory demonstration, clear voice with good spoken language but eye contact not proper	Contents of presentations are appropriate and well arranged; Proper eye contact with audience and clear voice with good spoken language			
Incorporation of Suggestions	Suggestions during midterm evaluation are not incorporated	Few changes are made as per modifications suggested during midterm evaluation	All major changes are made as per modifications suggested during midterm evaluation	Changes are made as per modifications suggested during midterm evaluation and good justification	Changes are made as per modifications suggested during midterm evaluation and new innovations added		0.5	
Project Report	Project report not prepared according to the specified format; References and citations are not appropriate	Project report is not fully according to the specified format; In-sufficient references and citations	Project report is according to the specified format but some mistakes; In-sufficient references and citations	Project report is according to the specified format; References and citations are appropriate but not mentioned well	Project report is according to the specified format; References and citations are appropriate and well mentioned		0.5	

RUBRICS FOLLOWED TO EVALUATE THE **LAB COURSES**

1. Attendance (5)

Parameter	Allocated marks	Low	Medium	High
Attendance	5	The student has attended less than 75% of the total number of classes.	The student has attended 75% to 85% of the total number of classes.	More than 85% of total classes have been attended by the student.
		0	1-3 marks	4-5 marks

2. Continuous performance (10)

Parameter	Allocated marks	Low	Medium	High
Continuous performance	10	The student has not performed anything during laboratory periods	The student has given satisfactory performance during laboratory periods	The student has given excellent performance or has completed all the tasks given during laboratory periods.
		0	1-7 marks	8-10 marks

3. Laboratory reports (15)

Parameter	Allocated marks	Low	Medium	High
Laboratory reports	15	The student has not submitted a laboratory report before the semester examination	The lab copy was submitted but was incomplete	The lab report submitted was Complete
		0	1-12 marks	13-15 marks

4. Initiative and intensity to learn (10)

Parameter	Allocated marks	Low	Medium	High
Initiative and intensity to learn	10	Students have shown no interest or initiative to learn anything during	Initiatives taken by the students were satisfactory	Initiatives taken by the students have helped them to complete all the

		laboratory periods		tasks on time
		0	1-7 marks	8-10 marks

5. Experiment (40):

Parameter	Allocated marks	Low	Medium	High
Experiment	40	The student was not able to perform the job, given during the semester laboratory examination	The student was partially able to perform the job during the semester laboratory examination	The student was able to perform the job accurately during the semester laboratory examination
		0	1-30 marks	30-40 marks

6. Viva-voce (20)

Parameter	Allocated marks	Low	Medium	High
Viva-voce	20	The student was not able to answer anything during viva-voce	The student was able to answer a few questions during viva-voce	The student was able to answer all the questions during viva-voce
		0	1-15 marks	16-20 marks

RUBRICS FOLLOWED TO EVALUATE SEMINAR

Department of Computer Science and Engineering									
Narula Institute of Technology									
Academic Session:-			Year: -			Name:-			
Roll No.:-						Paper code:-			
	Indicator	Inadequate(1)	Average (2)	Good (3)	Outstanding(4)	Mark Selected	Weightage	Marks Obtained	
Knowledge and Content	Organization of presentation	Hard to follow; sequence of information jumpy	Most of information presented in sequence	Information presented in logical sequence; easy to follow	Information presented as interesting story in logical, easy to follow sequence		3		
	Background content	Material not clearly related to topic OR background dominated seminar	Material sufficient for clear understanding but not clearly presented	Material sufficient for clear understanding AND effectively presented	Material sufficient for clear understanding AND exceptionally presented		3		
	Methods	Methods too brief or insufficient for adequate understanding OR too detailed	Sufficient for understanding but not clearly presented	Sufficient for understanding AND effectively presented	Sufficient for understanding AND exceptionally presented		3		
	Results (figures, graphs, tables, etc.)		Some figures hard to read	Majority of figures clear	Most figures clear	All figures clear		3	
			Some in inappropriate format	Majority appropriately formatted	Most appropriately formatted	All appropriately formatted			
			Some explanations lacking	Reasonably explained	Well explained	Exceptionally explained			
Knowledge of subject	Does not have grasp of information; answered only rudimentary questions	At ease with information; answered most questions	At ease; answered all questions but failed to elaborate	Demonstrated full knowledge; answered all questions with elaboration		3			
Presentation Skills	Graphics (use of Powerpoint)	Uses graphics that rarely support text and presentation	Uses graphics that relate to text and presentation	Uses graphics that explain text and presentation	Uses graphics that explain and reinforce text and presentation		2		
	Mechanics	Presentation has more than 10 misspellings	Presentation has no more than 5 misspellings	Presentation has no more than 2 misspellings	Presentation has no misspellings or		2		

Department of Computer Science and Engineering

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Academic Session:-

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Roll No.:-

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	Indicator	Inadequate(1)	Average (2)	Good (3)	Outstanding(4)	Mark Selected	Weightage	Marks Obtained
		and/or grammatical errors	and/or grammatical errors	and/or grammatical errors	grammatical errors			
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