

BEC-EXAMINATION REFORM POLICY-2020

BASAVESHWAR ENGINEERING COLLEGE (AUTONOMOUS), BAGALKOT

EXECUTIVE SUMMARY

This report is intended to begin a dialogue about examination reforms in Basaveshwar Engineering

College (A), Bagalkot and make recommendations which were indicated in the AICTE Examinations

Reform Policy report. The guidelines provided in the following pages will guide and facilitate the

institution in the creation and operation of enhancing the quality of the system. These guidelines are

the first step towards internalization and institutionalization of quality enhancement initiatives. Its

success depends upon the sense of belongingness and participation it can inculcate in all the

constituents of the institution. It has the potential to become a vehicle for ushering in quality

enhancement by working out planned strategies to remove deficiencies and enhance quality.

The committee conducted a series of meetings on 15th, 19th, 20th and 22nd May, 2020 to discuss on the

following instructions provided by the institution and develop a set of recommendations.

• Implementation of Examination Reform Policy

• Assessment/Rubrics of mini project, Project Phase I and II, Internship and Technical seminar

for B.E programmes

• The percentage and modalities of syllabus to be covered through conventional mode and

online mode for UG/PG courses

• Implementation of virtual laboratories for B.E programmes.

SEE question paper pattern for UG/PG students to be admitted to the first year during

2020-21

At this juncture, reforms in examinations are critical for improvement of the quality and relevance of

institute. It is hoped that the report will be of use to our institute to bring out the much-needed

change. The cooperation received from the institute in bringing out the report is gratefully

acknowledged.

Committee Members

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A) FOR THE STUDENTS FROM THE ACADEMIC YEAR 2020-2021 ONWARDS

1) Implementation of AICTE-Examination Reform Policy

1.1 Preamble/Introduction

Evaluation, grading and certification in our system rest on examinations which play an important role in the progression of a learner on the learning path. Examinations serve as checkpoints for both the learner and the external world, allowing appropriate certification to be issued reflecting the proficiency of an individual operating in socio-economic spheres.

AICTE-Examination reform policy intends to push the evaluation notches up on the Bloom's taxonomy and examine the learner for higher order cognitive skills to drive critical thinking, creativity and problem solving which have to be the attributes of any technical professional.

Examinations/student assessments play a very important role in deciding the quality of education. The academic quality of examinations (question papers) in the college is a matter of concern. This report attempts to bring out recommendations for reforms in examination system at BEC(A), Bagalkot to meet challenges of emerging engineering education landscape. At this juncture, reform in examinations are critical for the improvement of the quality and relevance of examination system at the college level.

In view of the above factors, the committee has come up with a report for adaptation of AICTE-Examination reform at BEC(A), in four sections:

- Important drivers for Examination reforms
- Strategies to be adopted to align assessment with the desired student learning outcomes
- Designing question papers to test higher order abilities and skills
- Educational experiences and assessment opportunities

1.2 Important Drivers for Examination Reform

1.2.1 Adoption to Outcome Based Education (OBE)

The college had adopted to **Outcome Based Education (OBE)** in the curriculum design, delivery and some part in assessment. However, this is not sufficient and very little attention is being given for connecting examination questions/assessment tools to the **Program Outcomes (PO)**. The absence of proper mapping between program outcomes and assessment tools lead to the inaccurate and unreliable measurement of attainment of outcomes by the students. This missing connect creates a big gap in the effective adaptation of OBE framework, making the whole exercise futile. Dynamic adaptations to these changes to remain competitive is the need of the hour.

AICTE has come up with a policy to bring in changes in the way the examinations are conducted at engineering colleges and there is a need for BEC(A) to adopt to new examination system based on the policy recommendations.

1.2.2 Importance of Higher-order Abilities and Professional Skills

In the present examination system, memorization occupies a dominant place. The assessment process must also test higher level skills viz. ability to apply knowledge, solve complex problems, analyse, synthesise and design. Further, professional skills like the ability to communicate, work in teams,

lifelong learning have become important elements for employability of the graduates. It is important that the examinations also give appropriate weightage to the assessment of these higher-level skills and professional competencies.

In the college, there is a procedure to assess higher level skills and professional skills through mini projects and projects, there is a necessity of bringing in a system, where we can assess the higher-level skills and also professional skills in a more intense manner.

1.3 Strategies to Be Adopted to Align Assessment with the Desired Student Learning Outcomes

1.3.1 Mapping Program Outcomes to Assessment (Examinations)

Program Outcomes (POs) reflect the skills, knowledge and abilities of graduates regardless of the field of study. This does not mean that POs are necessarily independent of disciplinary knowledge –rather, these qualities may be developed in various disciplinary contexts.

In outcome-based education, we move from POs to Course Outcomes (COs) and outcomes for individual learning experiences. Outcomes at each successive level need to be aligned with, and contribute to, the program outcomes. In the assessment activities, students demonstrate their level of achievement of the course learning outcomes. In a constructively aligned program, the courses are carefully coordinated to ensure steady development from the introduction to mastery of the learning outcomes, leading to achievement of the intended POs. For the effectiveness of the program, the achievement of POs is crucial which needs to be proven through accurate and reliable assessments.

BEC(A), has a system where course outcomes are written and assessments are designed to meet these course outcomes in turn assure meeting of PO's. However, this process has not resulted in meeting all the PO's. There is a necessity of designing different courses so that all the PO's are met through the several assessment methods.

1.3.2 Two-step Process for Bringing Clarity to POs

POs give useful guidance at the program level for the curriculum design, delivery and assessment of student learning. However, they represent fairly high-level generic goals that are not directly measurable. Real observability and measurability of the POs at course level is very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assessment, there is a necessity to bring further clarity and specificity to the program outcomes.

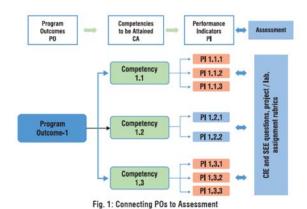
This can be achieved through the following two-step process of identifying **Competencies** and **Performance Indicators (PI).**

- i. Identify Competencies to be attained: For each PO define competencies –different abilities implied by program outcome statement that would generally require different assessment measures.
- **ii. Define Performance Indicators:** For each of the competencies identified, define performance Indicators (PIs) that are explicit statements of expectations of the student learning. They can act as measuring tools in assessment to understand the extent of attainment of outcomes.

Once the above process is completed for the program, the assessment of COs for all the courses is designed by connecting assessment questions (used in various assessment tools) to the PIs. By

following this process, where examination questions map with PIs, we get clarity and better resolution for the assessment of COs and POs.

The pictorial representation of the process is given in Fig. 1



Presently, the college does not follow this two-step process to bring in clarity. Each department needs to define the competencies for each PO and also define the Performance Indicators for each of the identified competency. The assessment should be based on Performance indicators, in turn will assess Competency and then Program Outcomes.

The process to be adopted is:

Program Outcomes (PO) – Competencies (CA) – Performance Indicators (PI)

1.4 Designing Question Papers to Test Higher Order Abilities and Skills

Written examinations play a major role in assessing the learning and awarding of grades to the student. Universities and colleges give highest weightage to the outcomes of the written examinations in overall grading. Since assessment drives learning, the design of question papers needs to go beyond the mere test of memory recall. They also need to test higher-order abilities and skills.

Written examinations assess a very limited range of outcomes and cognitive levels. A wide range of assessment methods (e.g., term papers, open-ended problem-solving assignments, course/lab project rubrics, portfolios etc.) need to be employed to ensure that assessment methods match with learning outcomes.

It is advisable to formulate assessment plans for each of the course in the program that brings clarity to the following:

- a. Alignment of assessment with course outcome of the course
- b. Level of learning (cognitive) student is expected to achieve
- c. Assessment method to be adapted

The college has a system of written examination for assessing the students, it is good for lower cognitive skills like memorization and recall, but there is a need for assessing the higher order cognitive skills for students

1.4.1 Bloom's Taxonomy for Assessment Design

Bloom's Taxonomy provides an important framework to not only design curriculum and teaching methodologies but also to design appropriate examination questions belonging to various cognitive levels. Conscious efforts to map the curriculum and assessment to these levels can help the programs to aim for higher-level abilities which go beyond remembering or understanding, and require application, analysis, evaluation or creation.

Revised Bloom's taxonomy in the cognitive domain includes thinking, knowledge, and application of knowledge. It is a popular framework in engineering education to structure the assessment as it characterizes complexity and higher-order abilities. It identifies six levels of competencies within the cognitive domain (Fig. 2) which are appropriate for the purposes of engineering educators.



Fig. 2: Revised Bloom's Taxonomy

There is a need to bring in clarity in using Bloom's Taxonomy in designing the assessment at the college level, and use higher level cognitive skills in assessing the students.

1.4.2 Action Verbs for Assessment

Choice of action verbs in constructing assessment questions is important to consider. Quite often, the action verbs are indicators of the complexity (level) of the question. Over time, educators have come up with a taxonomy of measurable verbs corresponding to each of the Bloom's cognitive levels. These verbs help us not only to describe and classify observable knowledge, skills and abilities but also to frame the examination or assignment questions that are appropriate to the level we are trying to assess. When we use action verbs, it is to keep in mind that it's the skill, action or activity we need students to demonstrate that will determine the contextual meaning of the verb used in the assessment question.

There is a need for more clarity in the usage of the action verbs, while designing the question papers. Faculty members have to judiciously use the action verbs and bring in more clarity in the assessment.

1.4.3 Assessment Planning

Normally the first three learning levels; remembering, understanding and applying and to some extent fourth level analysing are assessed in the Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE), where students are given a limited amount of time. And abilities; analysis, evaluation and creation can be assessed in extended course works or in a variety of student works like course projects, mini/ minor projects, internship experience and final year projects. This is shown in the Figure 3.

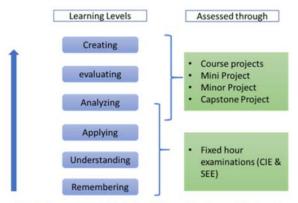


Fig. 3: Assessment methods for different Bloom's cognitive levels

College has to study the present pattern of assessment in each of the course in the program to gain insight about:

- a) Alignment of assessment questions with course outcomes
- b) Whether all the outcomes are tested; sometimes some outcomes are over tested at the expense of others which may be not tested at all.
- c) Overall weightage in the assessment, to each of Bloom's learning levels
- d) Assessment methods used to adequately assess the content and desired learning outcomes

Based on the study, improvement priorities for each of the above factors need to be arrived at. The reform process needs to be well planned and implemented through institutional strategy and communicated to all stakeholders particularly to the students.

A good and reasonable examination paper must consist of various difficulty levels to accommodate the different capabilities of students. It is recommended that at institution level, upper limit for lower order skills, like L1 and L2 no more than 40% weightage and for L3 and L4 60 %weightage for knowledge-oriented questions in CIE and SEE question papers. (Initially the percentage for L1 and L2 can be 60% and L3 and L4 can be 40%).

It is also important to note that, as nature of every course is different, the weightage for different cognitive levels in the question papers can also vary from course to course.

The committee also recommends to prepare the following matrices before the start of the semester and has to be made known to the students.

For Every Course we can Develop Model for;

- a) Course Assessment Plan (QAP)
- b) Question Paper Structure (QPS)
- c) Quality and Alignment Matrix (QAM)

These above matrices will act as guidelines for Question Paper Setters Question Paper Reviewers and this Practice will Lead to:

- a) Consistency in question paper quality
- b) Alignment with Outcomes
- c) Clarity of expectations to the students

A model Question paper and models are given in Appendix-I

1.5 Educational Experiences and Assessment Opportunities

In the 21st century, professional skills have emerged as important attributes of a graduate engineer. Studies show that Industry/ employers around the world value these abilities more than the disciplinary knowledge. This is also reflected in the NBA graduate attributes wherein six out of twelve attributes belong to this category. Though the employers consider these professional skills and higher abilities as important, students are weak in them. The main challenge surrounding them is that they are difficult to assess through existing conventional examination system.

1.5.1 Innovative Educational Experiences to Teach and Assess

Acquiring the professional outcomes may not result simply from participation in a particular class or set of classes. Rather, these outcomes are more often acquired or influenced through sources both in and outside the classroom. To address these challenges, comprehensive reforms are needed in the way we design our curriculum, student learning experiences and assessment of the outcomes. Following are the few educational experiences that are recommended to teach and assess professional outcomes and higher-order cognitive abilities:

- Course projects
- Open-ended experiments in laboratories
- Project-based learning modules
- MOOCs
- Co-Curricular experiences
- Mini / Minor projects
- Final year projects
- Internship experiences
- E-portfolios of student works

The committee is of the opinion that the college needs to strengthen the process of designing and evaluating the above list of educational experiences. For every course, it is necessary for us to think and implement any one of the above educational experience. It has to be documented along with the course file.

1.5.2 Using Scoring Rubrics as Assessment Tool

To evaluate the above innovative educational experiences, student works for attainment of course outcomes and hence POs, it is of utmost importance to have reliable methods / proper assessment tools. Rubrics provide a powerful tool for assessment and grading of student work. They can also serve as a transparent and inspiring guide to learning. Rubrics are scoring, or grading tool used to measure a students' performance and learning across a set of criteria and objectives.

The committee strongly recommends to have rubrics for every innovative educational experience adapted for a course and the same has to communicated to the students during the starting of the semester because, Rubrics communicated to students (and to other markers) your expectations in the assessment, and what you consider important.

1.5.3 Open-Book Examinations

Open-book examination is similar to time constrained written examinations but designed in a way that allows students to refer to either class notes, textbooks, or other approved material while answering questions. They are particularly useful if you want to test skills in application, analysis and evaluation,

i.e. higher levels of Bloom's taxonomy. However, in a program, the courses or the curriculum areas that are best suited to an open-book exam are to be carefully chosen.

Presently, college is not practicing the Open-book examination, however attempts must be made to adopt this method for at least one subject in each semester as a part of assignment of CIE.

The committee highly recommends that there is a need for a well-defined Course file or Conspectus file consisting of Course Outcomes, Objectives, models of delivery adapted for different topics, assessment methods used etc. which will give clarity in delivery and assessment. The examination reforms must follow the course delivery methods and structure of delivery.

1.6 Conclusions

- 1. AICTE has come up with a policy to bring in changes in the way the examinations are conducted at engineering colleges and there is a need for BEC(A) to adopt to new examination system based on the policy recommendations.
- 2. In the college, though there is a procedure to assess higher level skills and professional skills through projects, there is a necessity of bringing in a system, where we can assess the higher-level skills and also professional skills.
- 3. BEC(A), has a system where course outcomes are written and assessments are designed to meet these course outcomes in turn assure meeting of PO's. However, this process has not resulted in meeting all the PO's. There is a necessity of designing different courses so that all the PO's are met through the several assessment methods.
- 4. Presently, the college does not follow this two-step process to bring in clarity. Each department needs to define the competencies for each PO and also define the Performance Indicators for each of the identified competency. The assessment should be based on Performance indicators, in turn will assess Competency and then Program Outcomes.
- The college has a system of written examination for assessing the students, it is good for lower cognitive skills like memorization and recall, but there is a need for assessing the higher order cognitive skills for students

1.7 Recommendations

- 1. Based on the inputs given in the workshop the faculty members can rework on the following: The process to be adopted is:
 - Program Outcomes (PO) Competencies (CA) Performance Indicators (PI)
- 2. There is a need to bring in clarity in using Bloom's Taxonomy in designing the assessment at the college level, and use higher level cognitive skills in assessing the students.

- 3. There is a need for more clarity in the usage of the action verbs, while designing the question papers. Faculty members have to judiciously use the action verbs and bring in more clarity in the assessment.
- 4. College has to study the present pattern of assessment in each of the course in the program to gain insight about:
 - a) Alignment of assessment questions with course outcomes
 - b) Whether all the outcomes are tested; sometimes some outcomes are over tested at the expense of others which may be not tested at all.
 - c) Overall weightage in the assessment, to each of Bloom's learning levels
 - d) Assessment methods used to adequately assess the content and desired learning outcomes

Based on the study, improvement priorities for each of the above factors need to be arrived at. The reform process needs to be well planned and implemented through institutional strategy and communicated to all stakeholders particularly to the students.

- 5. A good and reasonable examination paper must consist of various difficulty levels to accommodate the different capabilities of students. It is recommended that at institution level, upper limit for lower order skills, like L1 and L2 no more than 60% weightage and for L3 and L4 40% weightage for knowledge-oriented questions in CIE and SEE question papers.
- 6. It is also important to note that, as nature of every course is different, the weightage for different cognitive levels in the question papers can also vary from course to course.
- 7. The committee also recommends to prepare the following matrices before the start of the semester and has to be made known to the students.

For Every Course we can Develop Model for;

- a) Course Assessment Plan (QAP)
- b) Question Paper Structure (QPS)
- c) Quality and Alignment Matrix (QAM)

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- a) Consistency in Question Paper Quality
- b) Alignment with Outcomes
- c) Clarity of expectations to the students

A model Question paper and models are given in Appendix-I

- 8. The college needs to strengthen the process of designing and evaluating the above list of educational experiences. For every course, it is necessary for us to think and implement any one of the above educational experience. It has to be documented along with the course file.
- 9. It is recommended to have rubrics for every innovative educational experience adapted for a course and the same has to communicated to the students during the starting of the semester because, Rubrics communicate to students (and to other markers) your expectations in the assessment, and what you consider important.

- 10. Presently, college is not practicing the Open-book examination; however, attempts must be made to adopt this method for at least one subject in each semester as a part of assignment of CIE.
- 11. There is a need for a well-defined Course file or Conspectus file consisting of Course Outcomes, Objectives, models of delivery adapted for different topics, assessment methods used etc. which will give clarity in delivery and assessment. The examination reforms must follow the course delivery methods and structure of delivery.

2) Assessment Rubrics for Internships and Technical Seminars, Mini-Project, Major Project Phase I&II of BE program

2.1 Internship

2.1.1 Internship Guidelines

- **Step 1:** Request Letter/ Email from the office of Training & Placement cell of the college should go to industry to allot various slots of 4-6 weeks during summer vacation.
- **Step 2:** Industry will confirm the training slots and the number of seats allocated for internships via Confirmation Letter/ Email.
- **Step 3:** Students on joining Training at the concerned Industry / Organization, submit the Joining Report/ Letters / Email.
- Step 4: Students undergo industrial training at the concerned Industry / Organization.
- Step 5: Students will submit training report after completion of internship.
- **Step 6:** Training Certificate to be obtained from industry.
- **Step 7:** List of students who have completed their internship successfully will be issued by Training and Placement Cell.

2.1.2 Internship Report

2.1.2.1 Student's Diary/ DailyLog

Student's Diary and Internship Report should be submitted by the students along with attendance record and an evaluation sheet duly signed and stamped by the industry to the Institute immediately after the completion of the training. It will be evaluated on the basis of the following criteria:

- Regularity in maintenance of thediary.
- Adequacy & quality of information recorded.
- Drawings, sketches and datarecorded.
- Thought process and recording techniques used.
- Organization of the information.

2.1.2.2 Internship Report

The Internship report will be evaluated on the basis of following criteria:

- Originality.
- Adequacy and purposeful write-up.
- Organization, format, drawings, sketches, style, language etc.
- Variety and relevance of learning experience.
- Practical applications, relationships with basic theory and concepts taught in the course.

The industrial training of the students will be evaluated in three stages:

- 1. Evaluation by Industry.
- 2. Evaluation through seminar presentation and
- 3. Viva-voce at the Institute.

2.1.3 Evaluation Through Seminar Presentation/Viva-Voce at The Institute

The student will give a seminar based on his training report, before an expert committee constituted by the concerned department as pernorms of the institute. The evaluation will be based on the following criteria:

- Quality of content presented.
- Proper planning for presentation.
- Effectiveness of presentation.
- Depth of knowledge andskills.
- Attendance record, daily diary, departmental reports shall also be analyzed along with the Internship Report.

Evaluation of Internship - Grading Rubric (Industry)

Evaluation	Performance Rating										
Dimensions	Needs Improvement 0-4	Meets Expectations 5-7	Excellent 8-10	Score							
Internship Evaluation Dimensions – Grading Criteria											
Quality of Work	Work was done in a careless manner and was of erratic quality; Work assignments were usually late and required review; Made numerous errors	With a few minor exceptions, adequately performed most work requirements; Most work assignments submitted in a timely manner; Made occasional errors	Thoroughly and accurately performed all work requirements; Submitted all work assignments on time; Made few if any errors	10							
Ability to Learn	Asked few questions and rarely sought out additional information Unable or slow to understand new concepts, ideas, and work assignments; Unable or unwilling to recognize mistakes and was not receptive to making needed changes and improvements	Asked relevant questions and sought out additional information from appropriate sources; Acceptable understanding of new concepts, ideas, and work assignments; Willing to take responsibility for mistakes and to make needed changes and improvements	Consistently asked relevant questions and sought out additional information from appropriate sources; Quickly understood new concepts, ideas, and work assignments; Always willing to take responsibility for mistakes and to make needed changes and improvements	10							
Initiative and Creativity	Had little observable drive and required close supervision; Showed little interest in meeting standards; Did not seek out additional work and frequently procrastinated in completing assignments; suggested no new ideas or options	Worked without extensive supervision; Found problems to solve and sometimes asked for additional work assignments; Set his/her own goals and, tried to exceed requirements; offered some creative ideas	A self-starter; Consistently sought new challenges and asked for additional work assignments; Regularly approached and solved problems independently; Frequently proposed innovative and creative ideas, solutions, and/or options	10							
Character Traits	Regularly exhibited a negative attitude; Dishonest and/or showed a lack of integrity on several occasions; Unable to recognize and/or was insensitive to ethical and diversity issues; Displayed significant lapses in ethical and professional behavior	Except in a few minor instances, demonstrated a positive attitude; Regularly exhibited honesty and integrity in the workplace; Usually aware of and sensitive to ethical and diversity issues on the job; Normally behaved in an ethical and professional manner	Exceptionally positive attitude; Consistently exhibited honesty and integrity in the workplace; Keenly aware of and deeply sensitive to ethical and diversity issues on the job; Always behaved in an ethical and professional manner	10							

Evaluation	Performa	ance Rating		Maximum Score
Dimensions	Needs Improvement	Meets Expectations	Excellent	_
	0-4	5-7	8-10	
Internship Eva	luation Dimensions – Grading	Criteria	_	
Dependability	Generally unreliable in completing work assignments; Did not follow instructions and procedures promptly or accurately; Careless, and work needed constant follow-up; required close supervision	Generally reliable in completing tasks; Normally followed instructions and procedures; Usually attentive to detail, but work had to be reviewed occasionally; Functioned with only moderate supervision	Consistently reliable in completing work assignments; Always followed instructions and procedures well; Careful and extremely attentive to detail; Required little or minimum supervision	10
Organizational Fit	Unwilling or unable to understand and support the organization's mission, vision, and goals; Exhibited difficulty in adapting to organizational norms, expectations, and culture; Frequently seemed to disregard appropriate authority and decisionmaking channels	Adequately understood and supported the organization's mission, vision, and goals; Satisfactorily adapted to organizational norms, expectations, and culture; Generally functioned within appropriate authority and decision-making channels	Completely understood and fully supported the organization's mission, vision, and goals; Readily and successfully adapted to organizational norms, expectations, and culture; Consistently functioned within appropriate authority and decisionmaking channels	10
Response to Supervision	Rarely sought supervision when necessary; Unwilling to accept constructive criticism and advice; Seldom implemented supervisor suggestions; Unwilling to explore personal strengths and areas for improvement	Sought supervision when necessary; Receptive to constructive criticism and advice; Implemented supervisor suggestions in most cases; Willing to explore personal strengths and areas for improvement	Actively sought supervision when necessary; Always receptive to constructive criticism and advice; Successfully implemented supervisor suggestions when offered; Always willing to explore personal strengths and areas for improvement	10

Evalua			Evaluation Committee/Faculty)
Evaluation	Perforr	mance Rating		Maximun Score
Dimensions	Needs Improvement	Meets Expectations	Excellent	500.0
	0-4	5-7	8-10	
Internship Evalu	ation Dimensions – Gradin	g Criteria		
Demonstration of experience	Offers little in the way of illustrating experiences Fails to adequately address how the experiences relate to the competencies.	Addresses the activities and experiences, but not so clearly and concisely	Well addressed activities and experiences as well as relating them to the program competencies.	10
Report	Unedited and difficult to read It is littered with grammatical and typographical errors, demonstrating little effort to producing a quality report. No reference is made to practical application. Lacks evidence and internship experience	Well-written for the most part but still has somewhat detracting errors that could have been fixed with additional editing prior to submission. Key concepts related to the selected evidence and internship experience are inaccurate or incomplete. Some helpful practical applications are included.	Has been carefully edited and is free or nearly free of any grammatical or typographical errors. Well-organized report is easy to read and understand and stands alone as a quality piece of writing. An accurate and complete reflection of key concepts related to the selected evidence and internship experience Practical applications are included to illuminate issues.	10
Presentation	Information is lacking/unclear and communicated in such a way that the audience cannot understand the purpose of the evidence work and internship experiences.	Information is presented in a clear manner but still lacks practical experience	Information is communicated in a thorough manner and ideas are expressed in such a way that the audience can clearly understand the evidence work and internship experiences.	10

Summary of Internship Evaluation						
(Industry Representative)						
Evaluation Criteria	Score from the above tables					
Quality of Work	10					
Ability to Learn	10					
Initiative and Creativity	10					
Character Traits	10					
Dependability	10					
Organizational Fit	10					
Response to Supervision	10					
	70					
Internship Guide						
Demonstration of experience	10					
Report	10					
Presentation	10					
	30					
Total Score	100					

2.2 Rubrics for Evaluation of Technical Seminars

POs	Criteria	Poor	Fair	Good	Outstanding
	Understand problems and select Topic from Scopus indexed journal/transaction papers.	Obsolete Irrelevant Out of scope.	Old but relevant to the subject. Significance of the topic is not justified properly.	topic. Significance of the topic is justified properly. No research scope.	Relevant and latest topic. Significance of the topic is justified properly. It has research scope and chance for doing project.
	Societal/ environmental/ Ethical relevance of the topic.	No Societal/ environmental/ Ethical relevance.	Socially relevant but no environmental/ ethical relevance.	Socially and environmentally relevant but not ethical.	Socially and Environmentally relevant and also ethical.
	Ability to collect required number of back ground materials.	gathered from a	Information is gathered from 2 numbers of sources.	Information is gathered from a limited number of sources.	Information gathered from multiple and research- based sources.
	Preparation of Slides.	Content not clear and insufficient. Has irrelevant contents Unable to convey the idea. No graphics used.	Has more text than bullet points. No uniformity across slides. Limited use of Graphics.	Content relevant but not precise. Has uniformity across slides.	Precise and relevant Contents. Able to convey the idea clearly. Used graphics wherever necessary.
	Presentation	Unable to convey the idea and poor communication skills. Hard to follow		skills but poor non- verbal	Idea conveyed properly and has good non-verbal communication and skills. Has good logical sequencing of presentation.
	Knowledge on the topic	Not able to answer any of the questions. Subject knowledge not adequate.	questions. Subject knowledge	Answered most of the questions. Failed to elaborate some of the concepts.	Answered all questions with elaboration. Has excellent understanding of the topic.
	Report	Copied work and a lot of spelling mistakes Copied from slides. No modern tool used	alignments are not proper. Content not sufficient. Have less mistakes. Conventional tools are used.	Own work. Alignment is Proper. Proper use of figures and tables. Conventional tools with graphs/plots/charts are used.	Own work with no mistakes. Alignments are proper. Proper use of figures and tables. Modern tools used.

Department of					

Name of the Student:

USN:

SI. No	Criteria	Poor	Fair	Good	Outstanding	Score
1.	Understand problems and select Topic from					
	journal/transaction papers from ACM/ Elsevier/ Springer/ IEEE etc	(1 Mark)	(2 Mark)	(4 Marks)	(6 Marks)	
	Societal/ environmental/ Ethical relevance of					
	the topic	(1 Mark)	(2 Mark)	(3 Mark)	(4 Marks)	
	Ability to collect required number of back					
<u>ن</u>	ground materials	(1 Mark)	(2 Mark)	(4Marks)	(6 Marks)	
4	Ability to select papers with latest technical					
7.	knowledge and tools	(1 Mark)	(2 Mark)	(4 Marks)	(6 Marks)	
5.	Preparation of slides					
·		(4 Mark)	(6 Marks)	(8 Marks)	(10 Marks)	
6.	Presentation					
		(15 Mark)	(20 Marks)	(25 Marks)	(30 Marks)	
7.	Knowledge on the topic					
		(3 Mark)	(6 Mark)	(7 Marks)	(8 Marks)	
8.	Report					
		(15 Mark)	(20 Marks)	(25 Marks)	(30 Marks)	
	Total Marks					

2.3 Rubrics for Mini-project in BE Program

Semester V/VI

Rubrics for	Phase	Period (Duration)	Rubric#	Marks	Evaluation by
CIE	Evaluation -I	Within ONE MONTH from the start of 5 th /6 th semester of BE Program	R1	15	Committee consisting of
	Review	Before 15 days from the end of 5 th /6 th semester of BE Program	R2	15	HoD/ Nominee + Coordinator + Guide(s)
	Evaluation by guide	Before one week from the end of 5 th /6 th semester of BE Program	R3	20	Guide(s)
SEE	Semester End Examination	During SEE of 5 th /6 th semester of BE Program	R4	50	External + Internal Examiners

R1: Rubrics to evaluate mini-project in the beginning of semester: Within ONE MONTH from the start of 6th semester BE

Evaluation Criteria	Needs improvements (Poor)	Acceptable (Average)	Satisfactory (Good)	Proficient (Very good)	Total marks	Evaluated by
	(2)	(3)	(4)	(5)		
Articulate problem	 Problem statement and 	 Problem statement is 	 Problem statement is 	 Problem statement is 		
statements and identify	objectives are not clear	clear and objectives are not in line	clear and objectives are not	clear and objectives are		
objectives		with problem statement	completely defined.	completely defined		
- GA		·				
Identify existing	Not able to identify existing	 Not able to identify 	 Able to identify 	 Able to identify 		Committee
processes/ solution	solution for solving the problem.	existing solution for solving the	•	existing solution for solving		consisting of (s),
methods for solving	The assumptions, approximations	-	-	· ·		HoD, Mini-project
the problem, including	and justifications are identified but not	approximations are aligned to the	· · · · · · · · · · · · · · · · · · ·	assumptions,		coordinator and
forming justified	clear	objectives.		approximations and	15	guide
approximations and		•		justifications are clear		
assumptions				,		Each will evaluate
- GA						for 15 marks and
Compare and contrast	 Not able to compare 	Able to compare	 Able to compare 	 Able to compare 		average of all the
alternative solution	alternative solution processes	alternative solution processes	alternative solution processes	alternative solution processes,		three is the marks
processes to		but could not contrast clearly	and contrast clearly but not	· ·		awarded
select thebest process-			able to select best process	select best process		
GA						

GA–GroupAssessment

IA – Individual Assessment

R2: Rubrics to review mini-project: Before 15 days from the end of 6th semester of B.E.

Evaluation Criteria	Needs improvements (Poor) (2)	Acceptable (Average) (3)	Satisfactory (Good) (4)	Proficient (Very good) (5)	Total marks	Evaluated by
Apply formal idea generation tools to develop multiple engineering design solutions and Identify suitable criteria for evaluation of alternate design solutions - GA	 Able to identify but not able to use it effectively Abletoidentify criteria but not abletousethem 	 Abletousethe tool but not abletogenerate engineering designs Able to use criteria but not able to compare alternatives 	 Able to generate engineering designs but not able to justify Not able to justify the comparison with criteria 	 Able to generate engineering designs with justification Able to justify the comparison with criteria 	Committee consisting of (HoD, Mini-pro coordinator a guide 15 Each will eval for 15 marks a average of all	Committee consisting of (s), HoD, Mini-project
Apply formal decision- making tools to select optimal engineering design solutions for further development - GA	 Able to identify but not able to choose optimum one 	 Able to identify optimum one but not able to use it 	 Able to use optimum one but not able to justify 	Able to use optimum one with justification		Each will evaluate for 15 marks and average of all the
Build models/ prototypes to develop diverse set of design solutions and develop drawings - IA	 Able to choose the tool but not able to use it effectively 	Able to use the tool but not able to generate alternatives	 Abletogenerate alternatives butnotableto justifythebest solution 	 Able to generate and justify the best solution 		three is the marks awarded

GA–GroupAssessment

IA – Individual Assessment

R3: Rubrics for evaluation by the guide(s): Before one week from the end of 6th semester of B.E.

Evaluation		Score/i	Marks		Total	Evaluated by
Criteria	Needs improvement (Poor) (2)	Acceptable (Average) (3)	Satisfactory (Good) (4)	Proficient (Excellent) (5)	Marks	
Identify engineering systems, variables, and parameters to solve the problems - IA	Engineering systems are identified but not clear. Variables, and parameters to solve the problems are not defined	Engineering systems are clear. Variables, and parameters to solve the problems are not defined	Engineering systems are identified. Variables, and parameters to solve the problems are partially defined	Engineering systems are identified. Variables, and parameters to solve the problems are completely defined		
Technical Knowledge and Awareness related to the Project -IA	Poor knowledge and no awareness related to project	Lacks sufficient knowledge and Awareness	Fair knowledge and awareness related to the project	Extensive knowledge and awareness related to the project	20	Guide(s)
Regularity and Attendance - IA	Irregular and inconsistent in work	Reports to the guide but lacks consistency	 Reports to the guide very often but not very consistent 	Reports to the guide regularly and consistent in work		
Read, understand and interpret technical and non-technical information - GA	Able to identify non- technical information	Able to read technical and non-technical information, but could not understand and interpret	Able to read, understand technical and non-technical information, but could not interpret	Able to read, understand and interpret technical and non-technical information		

R4: Rubrics for SEE evaluation

Evaluation Criteria	Very poor (2)	Poor (4)	Average (6)	Good (8)	Very good (10)	Total marks	Evaluated by
Generate information through appropriate tests to improve or revise design - GA	Not able to identify suitable tests tobedone	Abletoidentify butnotableto follow testing procedure	Able to follow testing procedures but not able to collect information	Able to collect information but not able to apply it for improvement	Able to apply information for the improvement		
Use appropriate procedures, tools and techniques to conduct experiments and collect data - GA	 Not able to identify tools, techniques and procedures 	Abletoidentify but notable to conduct experiments	Able to conduct experiments but not able to follow procedure	Able to follow procedure but not able to collect data	 Able to collect data as per the standards 		
Analyze data for trends and correlations, stating possible errors and limitations - GA	understand data	Able to understand but not able to analyze data	Able to analyze data but not able to correlate them	Able to correlate but not able to identify errors and limitations	Able to identify errors and limitations	50	External + Internal Examiners
Deliver effective oral presentations to technical and non-technical audiences	 Could not deliver effective presentations. 	 Could not deliver presentation, but presentation was prepared and attempted. 	 Able to deliver fair presentation but not able to answer to the audiences 	 Deliver effective presentations but able to answer partially to the audience queries. 	 Deliver effective presentation and able to answer all queries of the audience. 		
Present resultsas a team, with smooth integration of contributions from all individual efforts—GA + IA	No Contribution from an individual to a team	Contributions from an individual to a team is minimal	Contributions from an individual to a team is moderate	A contribution from an individual to a team is good but not well groomed in team.	• Contribution from an individual to a team is good and results in an integrated team presentation.		

GA–GroupAssessment IA – IndividualAssessment

Rubrics for Project Phase-I &II (VII + VIII Semester)

SEMESTER VII

Rubrics for	Phase	Period (Duration)	Rubric #	Marks	Evaluation by
	Evaluation-I	After one month from the start of 7 th	R1	15	Committee consisting of
CIE		semester of BE Program			HOD/Nominee + Project
	Evaluation-II	Before 15 days from the last working day	R2	15	Coordinator + Guide(s)
		of 7 th semester of BE Program			
	Evaluation	In the last week of working days	R3	20	Guide(s)
	by guide				
SEE	Semester	During SEE of 7th semester of BE	R4	50	Committee consisting of
	End	Program			HOD/Nominee + Project
	Examination				Coordinator + External Examiner

SEMESTER VIII

Rubrics for	Phase	Period (Duration)	Rubric #	Marks	Evaluation by
CIE	Evaluation-I	Before one month from the start of 8 th semester of BE Program	R5	15	Committee consisting of HOD/Nominee + Project Coordinator + Guide(s)
	Evaluation-II	Before 15 days from the last working day of 8 th semester of BE Program	R6	15	
	Evaluation by guide		R7	20	Guide(s)
SEE	Semester End Examination	During SEE of 8 th semester of BE Program	R8	50	Committee consisting of HOD/Nominee + Project Coordinator + External Examiner

The evaluation criteria may vary *marginally* (maximum of 5%) from the perspective of different disciplines but the structure/stages of evaluation and allotted marks for each stage of evaluation in both 7^{th} and 8^{th} semesters must be same for all the branches across the institute.

R1. Synopsis presentation (Before one month from the start of 7th semester of BE): Total Marks of 15

Evaluation		Score/Marks		Total	Evaluation By
Criteria	Poor (Needs Improvement) (1)	Average (Acceptable) (3)	Very good (Proficient) (5)	Marks	
Motivation And Rationale behind the work	 Less motivated and has less desire to achieve a goal, accomplish a task, or work Need for the process /product which offers viable solutions to accomplish a work towards expectations in a challenging and interesting area is not good 	 Moderately motivated and has some interest to achieve a goal, accomplish a task, or work Need for the process /product which offers viable solutions to accomplish a work towards expectations in a challenging and interesting area is okay and acceptable 	 Highly motivated and desirous to achieve a goal, accomplish a task, or work Need for the process /product which offers viable solutions to accomplish a work towards expectations in a challenging and interesting area is good 	15	Committee consisting of HOD/Nominee + Project Coordinator + Guide(s) Each will evaluate for
Literature review	Less technical papers are reviewed and less relevant	Few technical papers are reviewed and moderately relevant	 At least 3 technical papers from reputed journals are made and reviews are quite relevant to the project work 		15 marks and average of all three is the marks awarded
Presentation	 Slides contain some errors, Not legible, flow is okay, body language is minimal, Response to the audience questions and comments are not good 	Slides are error free, flow is good, body language is acceptable, Responds to the audience questions and comments	 Slides are error free, quite legible, flow is good, body language is good, Responds accurately to the audience questions and comments 		

R2. Internal Evaluation (Before 15 days from the last working day of 7th semester of BE): Total Marks of 15

Evaluation		Score/Marks		Total	Evaluation By
Criteria	Poor (Needs Improvement) (1)	Average (Acceptable) (3)	Very good (Proficient) (5)	Marks	
Proposed design methodology	Division of problem into modules and but improper selection of design approaches and design methodology and not properly justified	Division of problem into modules and but improper selection of design approaches and design methodology and not properly justified	Division of problem into modules and good selection of design approaches, appropriate design methodology with proper justification		Committee consisting of HOD/Nominee + Project
Preliminary/C onceptual Design work	Very less efforts are made towards preliminary and conceptual design works to accomplish the work	Efforts are made towards preliminary and conceptual design works to accomplish the work but some are not clear	Preliminary and conceptual design works are carried and are in proper direction to accomplish the project work	15	Coordinator + Guide(s) Each will evaluate for 15 marks and
Presentation and Report	Slides are not organized, and Question-answer is poor, report has errors and not systematic	 Slides are good but not neatly arranged, delivery is good, Question-answer is average Report is not organized systematically 	 Slides are neat, delivery is good, Question-answer is very good, gestures and body languages are perfect Report is organized, and is according to the specified format References and citations are appropriate 		average of all three is the marks awarded

R3. Evaluation by the guide (Towards the end of 7th semester of BE): Total Marks of 20

Evaluation		Score/Marks		Total	Evaluation
Criteria	Poor	Average	Excellent	Marks	Ву
	(1)	(3)	(5)		
Objectives and Feasibility study	 Many possible objectives are left out and very few are stated Design steps are not feasible to accomplish all the objectives 	 Some objectives are stated clearly and some possible objectives are left out Design steps are less feasible to accomplish all the objectives 	 All the objectives are clearly and neatly stated Design steps to be followed to solve the defined problem are feasible to accomplish all the objectives 		
Survey and Problem identification	Topics are surveyed randomly and less relevant to societal and environmental problem	Topics are surveyed and not fully relevant to society and environment problem	 Extensive survey is made and socially and environmentally relevant problem is identified 	2 0	Guide(s)
Involvement in the work and ability to work in team	Less involved in the work	Would have involved still more	 Sincerely involved in the work and very hard working and has good interest 		
Individual Contribution and Peer/Guide interaction	 Lesser involvement and contribution Rarely met the guide and met on guide's call 	 Contributed to the work to some extent Met the guide for interaction and Sincere and obedient to the guide's call and suggestions 	 Good interaction and contributed in a big way Met the guide for interaction and Sincere and obedient to the guide's call and suggestions More frequently met the guide for interaction and Sincere and obedient to the guide's call and suggestions 		

R4: SEE Evaluation for Project Phase-I (During SEE of 7th semester of BE): Total Marks of 50

Evaluation		Sco	re/Marks		Total	Evaluated by
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	
Identification of Problem Domain and Detailed analysis of Feasibility	 (Poor) (4) Moderate explanation of the purpose and need of the project Explanation of the specifications and the limitations of the existing systems not very satisfactory; limited 	 Average explanation of the purpose and need of the project; Moderate study of the existing systems; collects some basic information 	 Good explanation of the purpose and need of the project Collects a great deal of information and good study of the existing systems 	• Detailed and extensive explanation of the purpose and need of the project		HOD/nomination + Project
Objectives and Methodology of Project Proposal	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 Detailed and extensive explanation of the specifications and the limitations of the existing systems 	50	coordinator + External examiner Each will evaluate for 50 marks and average of all three is the marks awarded
Design Methodology	 Partial division of problem into modules and inappropriate selection of computing framework 	 Division of problem into modules but inappropriate selection of computing Framework 	 Division of problem into modules and good selection of computing framework Design methodology not properly justified 	 Division of problem into modules and good selection of computing framework Appropriate design methodology and 		

Evaluation		Sco	re/Marks		Total	Evaluated by
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	
	(Poor) (4)	(6)	(8)	(10)		
	 Design 	 Design 		properly justified		
	methodology not	methodology not				
	defined properly	defined properly				
Planning of	• Time frame not	• Time frame	• Time frame properly	Time frame properly		
Project Work	properly specified	properly	specified but being	specified and being		
		specified, but not	followed partly	followed		
		being Followed				
Presentation	• Contents of	• Contents of	• Contents of	• Contents of		
	presentations are	presentations are	presentations are	presentations are		
	appropriate but not	appropriate but	appropriate but not	appropriate and well		
	well Arranged	not well	well arranged	arranged		
	• Eye contact with	Arranged	 Satisfactory 	• Proper eye contact		
	few people and	Eye contact with	demonstration, clear	with audience and		
	unclear Voice	few people and	voice with good	clear voice with good		
		unclear Voice	spoken language but	spoken language		
			eye contact not			
			proper			

R5: Project work progress review-I (Before one month from the start of 8th semester of BE): Total Marks of 15

Evaluation		Scor	e/Marks		Total	Evaluated by
Criteria	Needs improvement (Poor) (2)	Acceptable (Average) (3)	Satisfactory (Good) (4)	Proficient (Excellent) (5)	Marks	
Design methodology and planning of project work Description of Concepts and Technical Details	explanation of the key concepts and poor description of	into modules and improper selection of computing framework Design methodology not properly justified Time schedule is specified Incomplete explanation of the key concepts and in-sufficient	 Division of problem into modules and good selection of computing framework Design methodology not properly justified, Time schedule is specified Complete explanation of the key concepts but insufficient 	 into modules and good selection of computing framework, Appropriate design methodology and properly justification Time frame properly specified Complete explanation of the key concepts and strong description of the technical 	15	HOD (or nomination) + Project coordinator + Guide(s) Each will evaluate for 15 marks and average of all three is the marks
	the technical requirements of the project	description of the technical requirements of the project	description of the technical requirements of the project	requirements of the project		awarded
Demonstration and presentation	Contents of presentations are not appropriate and Demonstration not satisfactory	Contents of presentations are appropriate but not well arranged, eye contact with few people and unclear Voice	Contents of presentations are appropriate but not well arranged, satisfactory demonstration, clear voice with good spoken language but eye contact not proper	Good demonstration of work so far carried-out, Contents of presentations are appropriate and well arranged, Proper eye contact with audience and clear voice with good spoken language		

R6: Project work progress review -II (Before 15 days from the last working day of 8th semester of BE): Total Marks of 15

Evaluation		Score	/Marks		Total	Evaluated
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	by
-	(Poor) (2)	(3)	(4)	(5)		
Incorporation of Suggestions made in the previous review	 All major changes are made as per modifications suggested during previous evaluation 	 All major changes are made as per modifications suggested during previous evaluation 	 Changes are made as per modifications suggested during previous evaluation and good justification 	 Changes are made as per modifications suggested during the previous evaluation and new innovations added 		
Discussion and Conclusion	 Results are not presented properly, Project work is not summarized and concluded Future extensions in the project are not specified 	not much satisfactory, Project work summary and conclusion not very appropriate • Future extensions in	in good manner, Project work summary and conclusion not very appropriate • Future extensions in	in very appropriate manner, Project work is well summarized and concluded,	15	HOD (or nomination) + Project coordinato r + Guide(s) Each will evaluate
Demonstration and Presentation	 Modules are not in proper working form that further leads to failure of integrated system, Contents of presentations are not appropriate and not well delivered Poor eye contact with audience and unclear voice 	 Modules are working well in isolation and properly demonstrated, Modules of project are not properly integrated, Contents of presentations are appropriate but not well delivered Eye contact with only few people and unclear voice 	Each module working well and properly demonstrated, Integration of all modules not done and system working is not very satisfactory, Contents of presentations are appropriate and well delivered, Clear voice with good spoken language but less eye contact with audience			for 15 marks and average of all three is the marks awarded

R7: Evaluation by the guide (Towards the end of 8th semester of BE): Total Marks of 20

Evaluation		Score/	Marks		Total	Evaluated
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	by
	(Poor) (2)	(3)	(4)	(5)		
Technical	 Poor knowledge and 	• Lacks sufficient	 Fair knowledge and 	Extensive knowledge		
Knowledge	no awareness	knowledge and	awareness related to	and awareness		
gained through	related to project	Awareness	the project	related to the project		
project work						
Regularity and	 Irregular and 	• Reports to the guide	• Reports to the guide	Reports to the guide		
Attendance	inconsistent in work	but lacks Consistency	very often but not	regularly and		
			very consistent	consistent in work	20	
Incorporation of	All major changes	All major changes are	• Changes are made as	Changes are made as	20	Guide(s)
Suggestions	are made as per	made as per	per modifications	per modifications		
made in the	modifications	modifications	suggested during	suggested during the		
previous review	suggested during	suggested during	previous evaluation	previous evaluation		
	previous evaluation	previous evaluation	and good justification	and new innovations		
	·			added		
Organization and	• Project report not	• Project report is	• Project report is	• Project report is		
structure of	prepared according	according to the	according to the	according to the		
Project Report	to the specified	specified format but	specified format,	specified format,		
	format, References	some mistakes,	References and	References and		
	and citations are not	Insufficient references	citations are	citations are		
	appropriate	and citations	appropriate but not	appropriate and well		
			mentioned well	mentioned		

R8: SEE Evaluation for Project Phase-II (During SEE of 8th semester of BE): Total Marks of 50

Evaluation	Score				Total	Evaluation
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	Ву
	(Poor) (2)	(3)	(4)	(5)		
Presentation	Contents of presentations are not appropriate and not well delivered, Poor eye contact with audience and unclear voice	Contents of presentations are appropriate but not well delivered, Eye contact with only few people and unclear voice	Contents of presentations are appropriate and well delivered, Clear voice with good spoken language but less eye contact with audience	Contents of presentations are appropriate and well delivered, Proper eye contact with audience and clear voice with good spoken language		
Designs and implementation	Proper design methodology is not followed resulting into poor design, No modern tools are used to implement, Work contributes very less to the world	Proper design methodology is followed, Design lacks, very less modern tools are used to implement, the work contributes to the world in little way	Proper design methodology is followed, Design is done but not perfect, few modern tools are used to implement, the work contributes to the world in some way	Proper design methodology is followed, Design is perfect, Modern tools are used to implement, the work contributes to the world in greater way	50	HOD/ nomination + Project coordinato r + External Examiner Each will evaluate
Results and Demonstration	 Some of the defined objectives are achieved Modules are not in proper working form that further leads to failure of integrated system 	 All defined objectives are achieved Modules are working well in isolation and properly demonstrated Modules of project are not properly integrated 	 All defined objectives are achieved and working well and demonstrated Integration of all modules not done and system working is not very satisfactory 	 All defined objectives are achieved and evident from the results Each module working well and properly demonstrated All modules of project are well integrated and system working is accurate 		for 50 marks and average of all three will be taken

Evaluation		S	core		Total	Evaluation
Criteria	Needs improvement	Acceptable (Average)	Satisfactory (Good)	Proficient (Excellent)	Marks	Ву
	(Poor) (2)	(3)	(4)	(5)		
Project report	 Project report not 	• Project report is	• Project report is	• Project report is		
	prepared	according to the	according to the	according to the		
	according to the	specified format but	specified format	specified format		
	specified format	some mistakes	• References and	• References and		
	• References and	• In-sufficient references	citations not	citations are		
	citations are not	and citations	mentioned well	appropriate and well		
	appropriate			mentioned		
Viva - Voce	• Answered few	• Answered some	Answered 80% of the	 Answered all the 		
	questions related	questions related to	questions related to	questions related to		
	to design,	design,	design,	design,		
	implementation	implementation and	implementation and	implementation and		
	and applications of	applications of project	applications of	applications of project		
	project work	work	project work	work		

3) The percentage and modalities of syllabus to be covered through conventional mode and online mode for UG/PG courses

3.1 Introduction

In a traditional course (syllabus covered through conventional mode) all of the instruction is provided in a face-to-face classroom setting. However, students are expected to regularly supplement their learning through the use of technology. Research suggests that blended learning models that combine face-to-face and online instruction yield the best student learning outcomes. Therefore a hybrid course which is a combination of face-to-face classroom instruction and online instruction can be used to conduct the classes. A portion of the instruction is provided online, but some regular face-to-face instruction is still required. Face-to-face time requirements will vary between hybrid courses and sections of the syllabus. In an online course all of the instruction is provided online and normally no face-to-face classroom instruction is required.

- i. The committee recommends 80% traditional and 20% online conduction of classes. However, it is required by the faculty that he/she should inform the students well in advance on which portion of the syllabus will be covered through online through conspectus. It is also suggested to the faculties to submit digital proof (snap shots and sample of video classes) of the online classes taken at the end of the semester with necessary details
- ii. The committee also suggests the college authorities to develop physical infrastructure including procurement of legal software for running online courses smoothly.
- iii. Committee opines that a high-end recording facility (Studio) in the college to be used by faculty to record lectures.

4) Implementation of virtual laboratories for B.E programmes

4.1 Introduction:

Computing and communication technology has had a significant impact on the engineering education system. This technology has improved online and collaborative learning. Besides that, it improves the students learning experiences. One of the distinguishing elements of engineering education is the laboratory requirement. The current trends and key issues in virtual laboratories-simulation environment laboratories and remote laboratories can be conducted via the Internet. Virtual Laboratories provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level. It will enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation. It is also provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.

The remote lab allows users to control and perform experiments on real equipment via Internet. The benefits of the remote lab are a mixture real and simulation lab advantages. The effectiveness of the remote lab depends on the user interactivity.

Based on the benefits of virtual lab the committee recommends the following:

- i. Two or more experiments in each laboratory course can be added for a virtual lab over and above the existing physical experiments
- ii. The committee also suggests the college authorities that there is a need of infrastructure and legal software for running virtual lab
- iii. The selection of laboratory experiments is to be decided by respective Board of Studies (BoS)

B) SEE question paper pattern for UG/PG students to be admitted to the first year during 2020-21

1.0 Introduction

Questions shall be set to assess the level of knowledge acquired, application of knowledge in new situations, critical evaluation of knowledge and the ability to synthesize knowledge. The question setter shall ensure that questions covering all skills are set. She/he shall also submit a detailed scheme of evaluation along with the question paper. A question paper shall be a judicious mix of very short type, short answer type, short essay type /problem solving type and long essay type questions.

The emphasis on the questions is broadly based on the following criteria:

- To test the objectiveness of the concept
- To test the analytical skill of the concept
- To test the application skill of the concept

The question paper patterns should have minimum choices and adopt Bloom's taxonomy. The question paper pattern for semester end semester examination with Bloom's taxonomy has exposed the faculty members and students to various knowledge levels. Question should be set in such a way that it will test the skill of applying the knowledge acquired and thinking ability in addition to testing the memory and skills acquired.

1.1 SEE Model Question Paper Pattern

S.No	Examination	Syllabus coverage for the Examination	Duration of the examination in hours	Max. marks	Question Paper Pattern				
01	Semester End Exam	Full Syllabus	03	50	Part A	One Compulsory question consists 20 sub questions of 1 mark each / 10 questions 2 mark each covering entire syllabus(All units)/ (50 % of questions must be L3 and L4 level)	20X1=20/ 10X2=20 marks		
					Part B	There shall be one question from each unit with internal choice. Each question carries 20 marks. Each Theory course shall consist of four units of syllabus. All questions should have same complexity in terms of COs and Bloom's taxonomy level.	20X4 = 80 marks		
			Total	50		Ž	100 Marks		

Total Set questions=180 marks

1.2 Course Utilization for CIE and SEE

Unit	Chapter	Teaching	Number of Qu	estions in	Number of Questions in SEE
		Hours	CIE-I	CIE-II	
					One Compulsory question consists of 20 sub questions of 1 mark each / 10 questions 2 mark each covering entire syllabus(All units)/ (50 % of questions must be L3 and L4 level)
ı	1		1		2
	2		Compulsory		
II	3		+3 Questions		2
	4				
III	5			1	2
	6			Compulsory	
IV	7			+3	2
	8			Questions	

1.3 Model Question paper

B.E. First Semester End Examinations, 2021 Duration: 3 Hours Max. Marks: 100

		PART	A		PART A											
		Answer ALL o	questions													
	Ottostion Marks BU CO DO DI															
Q1		Question	Marks	BLL	СО	PO	PI									
			20													
	PART B															
	Answer any FOUR full questions selecting at least ONE from each unit															
2		UNIT-I	20													
			OR													
3			20													
		UNIT-II														
4			20													
			OR													
5			20													
		UNIT-III														
6			20													
			OR													
7			20													
		UNIT-IV														
8			20													
			OR													
9			20													

C) Concluding Remarks:

The spirit of the examination reform policy is "student-centered". Any reform measures must be targeted at students. With this in mind, committee has initiated examination reform policy and introduced measures to enhance the technical and skill proficiency of students. Committee has also provided with curriculum and assessment mechanisms for increased learning opportunities for students. One of the main obstacles in addressing these outcomes is the limitation of educational experience within engineering programs. Most of the coursework in programs are oriented towards teaching technical knowledge and skills; hence, the assessment is limited to those abilities. However, acquiring the professional outcomes may not result simply from participation in a particular class or set of classes. Rather, these outcomes are more often acquired or influenced through sources both in and outside the classroom. To address these challenges, comprehensive reform is addressed by the committee to design curriculum, student learning experiences and assessment of the outcome through course plan structure. Examination reforms are a never-ending on-going programme of action in the interest of students in engineering education. Teachers have the onerous responsibility in the system and special commitment toward students. Any innovation or renovation in examination reforms requires cooperation, interest and consent of the faculty. Since examinations or assessment of students play an important role in deciding the quality of examinations, it was deliberated to prepare questions through mapping the examinations from Course Outcomes.

AICTE has also stated the importance of innovative educational experience to teach and assess. By adding a few educational experiences such as course projects, internship experiences, open ended experiments in laboratories and more, the teachers can teach and assess professional outcomes and higher-order cognitive abilities. The BEC(A)-Examination reform policy report encompasses all the above factors and provides with comprehensive methodology for improving examination system.

1.1 Course Assessment Plan (CAP)

COs	Weightage in assessment	CIE-	CIE- II	CIE- III	Quiz	Assignment	Course Project	SEE
1	15%	⊘						\bigcirc
2	35%				\odot		⊘	Ø
3	30%	⊘	②					⊘
4	20%				②	⊘	⊘	⊘
Weightage	100%	15%	15%	15%	5%			50%

1.2 Question Paper Structure (QPS)

QPS has to be prepared for both CIE and SEE

Q. No		Bloom's Leve	l Distribution	
	L1	L2	L3	L4
01				
02				
03				
04				
05				
06				
07				
08				
Total	34	30	50	46
%	21	19	31	29

1.3. Quality and Alignment Matrix (QAM)

Q. No	Bloo	m's Leve	l Distribu	ıtion			CO Disti	ribution		
	L1	L2	L3	L4	CO1	CO2	CO3	CO4	CO5	CO6
01										
02										
03										
04										
05										
06										
07										
08										
Total										
%										

1.4 Model Question paper:

Question No	Question	Marks	BLL	СО	PI
1. a					
b					
С					
2					
3					
4					
5					
6					
7					
8					

USN	2	В	A				

B.E. Fifth Semester End Examinations, December 2019 Operating Systems

Duration: 3 Hours Max. Marks: 100

NOTE: Answer any **FIVE** full questions selecting at least **ONE** from each unit.

Q.	No	Question	Marks	BLL	CO	PO	PI
		UNIT - I					
1.	a)	Define an operating system. Discuss its role with respect to user and system viewpoints.	2+6	2	1	1	1.3.1
	b)	Give two reasons why caches are useful. What problems do they solve? What problems do they cause? If the cache can be made as large as the device for which it is caching (for instance a cache as large as a disk), why not make it that large and eliminate the device?		4	1	1,2	1.4.1 2.2.2
	c)	The services and functions provided by an operating system can be divided into two main categories briefly describe the two categories and discuss how they differ	3+3	2	1	1	1.4.1
2.	a)	What is a process? With a state diagram, explain	2+2+3+3	2	2	1	1.4.1
2.	α)	states of a process. Also write the structure of process control block.	2121313	2	2	1	1.7.1
	b)	For the following example, calculate average waiting time and average turnaround time using FCFS, primitive SJF and RR (4 time unit) CPU scheduling algorithms. Jobs Arrival time Burst time P_1 0 8 P_2 1 4 P_3 2 9 P_4 3 5	3+3+4	3	2	1,2	1.4.1 2.4.1
		UNIT - II					
_							1.5.1
3.	a)	List the different types of IPC. Explain any one in detail.	1+5	2	2	1	1.3.1
	b)	What are threads? Explain different multi-threading models.	2+2	2	2	1	1.3.1
	c)	Define a thread library. Illustrate with a program an approach for creating a thread library.	2+4	3	2	1	1.3.1
			2.2			1	1.0.1
4.	a)	Explain the following system calls. i) fork () ii) exec ()	2+2	2	2	1	1.3.1

	b)	What is a race condition? List the requirements that a solution to critical section must satisfy.	2+4	2	3	1	1.3.1
	c)	Explain reader's writer's problem using semaphores.	05	2	3	1	1.3.1
	d)	Define a monitor with suitable syntax.	2+3	1	3	1	1.3.1
		UNIT - III					
5.	a)	What are the necessary and sufficient conditions for deadlock? Briefly explain.	06	2	3	1	1.3.1
O	No	Question	Marks	BLL	CO		
5	b)	Consider the following snapshot of a system. Allocation Max Available A B C A B C A B C P0 0 1 0 7 5 3 3 3 2 P1 2 0 0 3 2 2 P2 3 0 2 9 0 2 P3 2 1 1 2 2 2 2 P4 0 0 2 4 3 3 Answer the following operations using Banker's algorithm. i. What is the content of the matrix need? ii. Is the system in a safe state? If yes, write the safe sequence. iii. If the request arrives for P0 for(1 0 0 2) can the request be granted Describe the methods for recovery from deadlock?	2+4+3	3	3	1,2	1.4.1 2.4.1 1.3.1 2.3.1
6.	a)	What is paging? Explain.	7	2	4	1,2	1.3.1 2.3.1
	b)	Distinguish between i) Logical address space and physical address space. ii) Paging and segmentation.	2+2	3	4	1,2	1.3.1 2.3.1
	c)	Consider the following page reference string. 1, 2, 3, 5, 2, 3, 5, 7, 2, 1, 2, 3, 8, 6, 4 How many page faults would occur in the case of i) LRU ii) FIFO iii) Optimal algorithm Assuming 3 frames. Note that initially all frames are empty.	2+2+2	3	4	1,2	1.3.1 2.3.1
		UNIT - IV					
7.	a)	Compare various directory structures and justify best suited directory structure for file accessing.	4+4	4	5	1,2	1.3.1 2.2.1
	b)	discuss linked and indexed method of allocating	4+4	4	5	1,2	1.3.1

		disk space justify the optimal method					2.2.1
	c)	What is file mounting? Explain.	4	2	5	1,2	1.3.1 2.2.1
8.	a)	Explain the following disk scheduling algorithms in	12	2	5	1,2	1.3.1
		brief.					2.2.1
		i) FCFS ii) SSTF iii) SCAN iv) LOOK					
	b)	What is protection? Differentiate mechanisms and	8	4	5	1,2	1.3.1
		policies. Justify the access matrix with domain as					2.2.1
		objects.					

BASAVESHWAR ENGINEERING COLLEGE (AUTONOMOUS), BAGALKOT

1.5 MODEL COURSE PLAN

Title of Course	:		Course Code	:	
Credits	••	Contact	Hours/ Week	:	
Total Hours	••	Т	utorial Hours	:	
CIE Marks	:		SEE Marks		
Semester	:		Year		
Name of Faculty	:		Name of HOD	:	

1.5.1 Prerequisites:

1.5.2 Course Objectives:

	The Course objectives are:
1	
2	
3	
4	
5	
6	

1.5.3 Course Outcomes:

	At the end of the course the student should be able to:
1	
2	
3	
4	
5	
6	

1.5.4 Course Articulation Matrix: Mapping of Course Outcomes (CO) with Programme Outcomes (PO) and Programme Specific Outcomes (PSO)

		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
	Programme Outcomes Course Outcomes students will be able to:															
1																
2																
3																
4																
5																
6																

1.5.5 Competencies Addressed in the course and Corresponding Performance Indicators

1.5.5.1 Programme Outcome: Any of 1 to 12 PO's:

Competency	Indicators

- **PO1**. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2**. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3**. **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 the public health and safety, and the cultural, societal, and environmental considerations.
- **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.
- **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.
- **PO6. 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.
- **PO7**. **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.
- **PO8**. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO**9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO**10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with 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.
- **PO**11. **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.
- **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.

1.5.6 Unit Learning Outcomes (ULO):

Unit Learning Outcome (ULO)	CO's	BLL	PI
			addressed

1.5.7 Course Content:

Hours Required	Topic to be covered	Mode of Delivery
01		Chalk and talk in classroom/Lecture combined
01		with discussions/Lecture with a quiz/ Tutorial/
01		Assignments/ Demonstration/ Invited
01		lectures/ Group Assignment/
01		Project / Seminars, Presentations/Group
01		Discussion/Asynchronous Discussion
01		

1.5.8 Review Questions:

Review Questions	ULO	BLL	PI
			PI addressed

1.5.9 Evaluation Scheme:

Assessment	Marks	Weightage
CIE-I	20	20
CIE-II	20	20
Assignments/ Quizzes/	10	10
Case Study/ Course Project/		
Term Paper/Field Work		
SEE	100	50
Total	150	100

1.5.10 Details of Assignment:

Assignment	Marks (10)	СО	PI	CA	РО
Assignment 1					
Assignment 2					
•••					
•••					
Assignment n					

Signature of the Faculty Member

Signature of Head of the Department

ADDITIONAL INFORMATION

2.5.3 IT Integration and Reforms in the examination procedures including Continuous Internal Assessment (CIA) have brought in considerable improvement in the Examination Management System (EMS) of the Institution.

Contents

S.No	Description	Page No
1	OBE Question Paper	03-8
2	External Audit of question papers and answer scripts	9-13
3	Question paper Security	14
4	Adoption of Spot Valuation practice	15-18
5	Use of OMR Answer Booklet	19-20
6	Anti-Plagiarism check	21-22
7	Implementation of ICT (Examination Tool)	23-31
8	Inclusion of CCTV cameras	31
9	Declaration of Results	32
10	Inclusion of Security features on 'Statement of grades'	33
11	Online Payment	33

1. OBE QUESTION PAPER

CIE Question Paper

D		

		DV V3		
	BASAVESHWAR ENGINEERING C	OLLEGE (AUTON	IOMOUS), BAGALK	ОТ
	DEPARTMENT OF			
	ACADEMIC YEAR	(SEMESTER)	
		CIE TEST		
Course	:		Semester	:
Subject	:		Division	:
Subject Code	:		Time	:
Date	:		Max. Marks	: 40
Faculty Name	:			

Note: 1. PART-A: All questions are compulsory

2. PART-B: Answer any ONE full question from each unit

PART-A

MARKS	BLL	CO	PI
20			
_			

Note: BLL (Blooms Learning Level), CO (Course Outcome), PI (Performance Indicator)

BVVS

BASAVESHWAR ENGINEERING COLLEGE (AUTONOMOUS), BAGALKOTE

		DEPARTMENT OF		
		ACADEMIC YEAR(SEMESTER)	
		CIE TEST		
Course	:		Semester	:
Subject	:		Division	:
Subject Code	:		Time	:
Date	:		Max. Marks	: 30
Faculty Name	:			

Note: Answer any two full questions

Q.	No.	Question	MARKS	BLL	СО	PI
1.	a)					
	b)					
	c)					
2.	a)					
	b)					
	c)					
3.	a)					
	b)					
	c)					

Note: BLL (Blooms Learning Level), CO (Course Outcome), PI (Performance Indicator)

		T		T	_		1	1	
USN	2	В	Α						Subcode

	B.E	Semester End Examinations, Month	Year
		Subject Title	
Duration: 3 Hours			Max. Marks: 100
		NOTE: PART-A: All questions are compulsory PART-B: Answer any one full question	

(Q.No.	Question	Marks	BLL	СО	PI
		PART-A				
1.	i)					
	ii)					
	iii)	,				
	iv)					
	v)					
	vi)					
	vii)					
	viii)					
	ix)					
	x)					
	xi)					
	xii)					
	xiii)					
	xiv)		,			
	xv)					
	xvi)					
	xvii)					
	xviii)					
	xix)					
40	xx)					
		PART-B				
		UNIT – I				
2.	a)					
	b)					
	c)					
	d)					
3.	a)	•				
	b)					
	c)					
	d)					

Subcode

C	l.No.	Question	Marks	BLL	со	PI
	Т	10007				
	-	UNIT – II				-
4.	a)					
	b)					
	c)					
	d)					
5.	a)					
	b)					
	c)					
	d)					
		UNIT – III				
6.	a)					
	b)					
	c)					
	d)					
7.	- 2					
7.	a) b)					
	c)					
	d)					
	uj	UNIT-IV				
		OMITY				
8.	a)					
	b)					
	c)					
	d)					
9.	a)					
	b)					
	c)					
	d)					

Subcode

TICNI	_	_					
USN	2	В	A				

B.E Semester End	Examinations, Month Year
Subj	ect Title
Duration: 3 Hours	Max. Marks: 100
Subject Title	

Q.	No	Question	Marks	BLL	CO	PI
		UNIT - I				
1.	a)					
	b)					
	c)					
	d)					
2.	a)					
	b)					
	c)					
	d)					
		TINITE II				
		UNIT - II				
3.	a)					
٥.	b)					
	c)					
	d)					
	/					
4.	a)					
	b)					
	c)					
	d)					
		UNIT - III				
		1				
5.	a)					
	b)					
_	c)					
_	d)					
6.	a)					
0.	b)					
	c)					
	c) d)					

Subcode

Q.	No	Question	Marks	BLL	CO	PI
		UNIT - IV				
7.	a)					
	b)					
	c)					
	d)					
8.	a)					
	b)					
	c)					
	d)					

2. External Audit of question papers and answer scripts



BASAVESHWAR ENGINEERING COLLEGE (AUTONOMOUS) BAGALKOT-587102

AUTONOMOUS EXAMINATION SECTION

REVIEWER REPORT

Department	:
Programme	:
Academic Year	:
Session	: ODD/EVEN SEMESTER
Date	:
Reviewer Report	

REVIEWER INFORMATION

1)	Name of the Reviewer	:	
2)	Designation	:	
3)	Affiliation	:	
4)	Address with e-mail:		
	Cell No :		
Date	e:	\$	Signature

Reviewer Report

SEE Question paper procedure for: I. a) Number of Question papers available for each subject: b) Duration for Question paper setting: c) Question paper scrutiny d) Selection of Question paper e) Question paper printing f) Precautions adopted II. **Conduction of Theory SEE Examinations:** ______

Reviewer Report

a) Coding: b) Decoding: c) Marks entry: d) Precautions adopted:

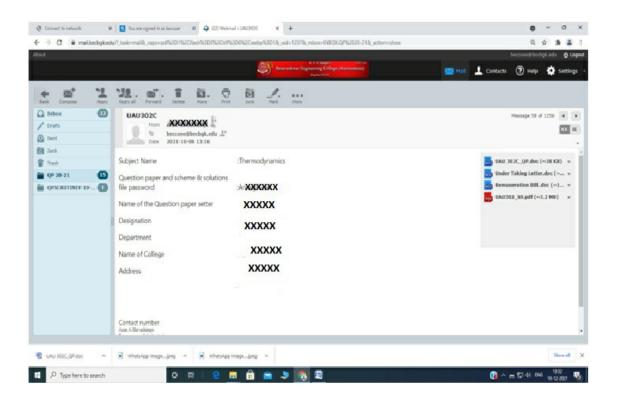
IV. Theory subject evaluation Reviewed:

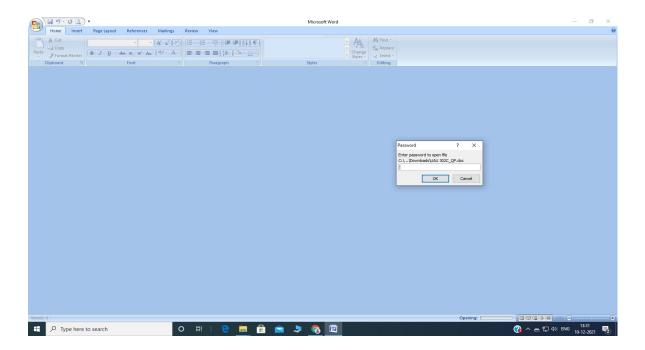
SEM	SUBJECT	SUBJECT CODE	REMARKS

Reviewer Report

V. Remuneration for Examiners	:
VI. Hospitality for Examiners	:
REVIEWER 1	<u>REPORT</u>
This is to certify that, I have gone throug to the entire examination process and a out by me.	
Date:	Signature:

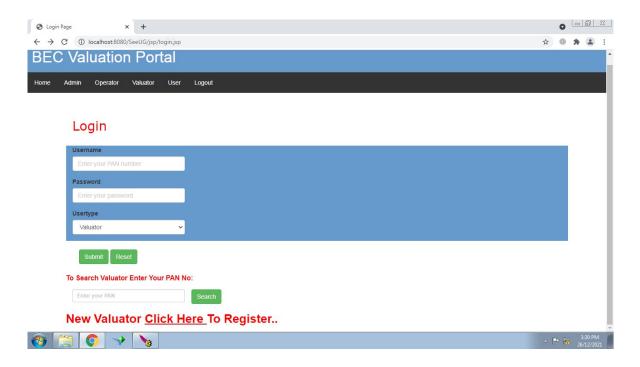
3. Question Paper Security



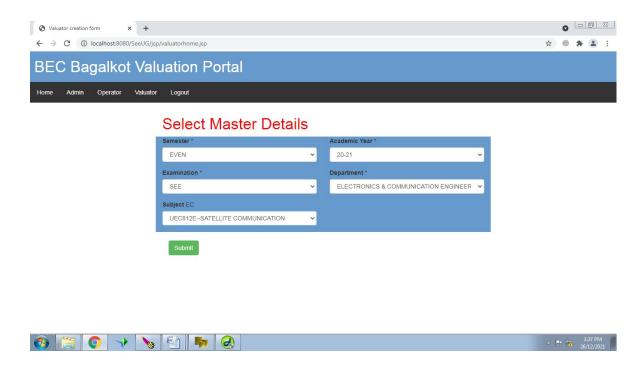


4. Adoption of Spot Valuation Practice

Valuator Login Page



Subject Code Selection Page

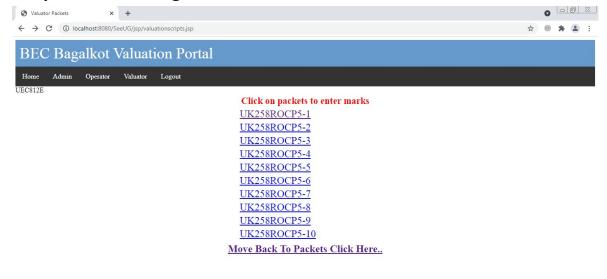


Packet Selection & Marks Sheet Printing Page



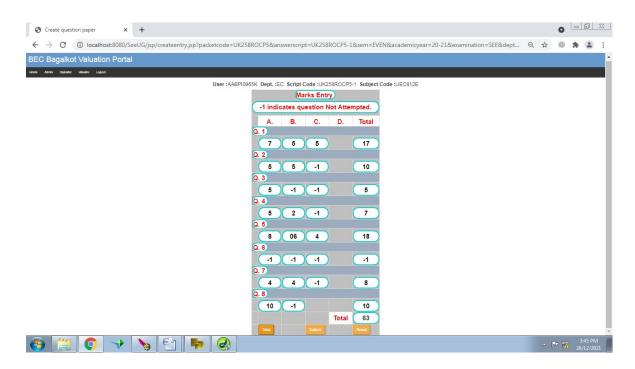


Script Selection Page

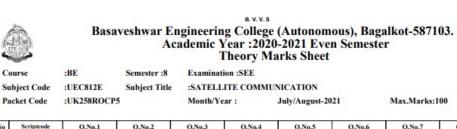




SEE Marks Entry Page



Bitwise Marks Sheet



S.No	Scriptcode		Q	.No	.1			Q	.No	.2		ı	Q	.No	.3			().No	.4			Q	.No	.5		Q.No.6		Q.No.6					Q.No.6					Q.No.7					Q.No.8					Total Marks
		Λ	В	C	D	T	Λ	В	C	D	T	Λ	В	C	D	T	Λ	В	C	D	T	A	В	C	D	T	Α	В	C	D	T	Α	В	C	D	T	Λ	В	C	D	T	Mari							
1	UK258ROCP5-1	7	5	5	-	17	5	5	-	-	10	5	-		-	5	5	2		-	7	8	6	4		18					-	4	4	-	-	8	10				10	063							
2	UK258ROCP5-2	5	5	-	-	10			-	-	-		5			5	-	5	4	-	9	-	-	-		-	2	5		-	7	5	5	5		15	5	5	-		10	051							
3	UK258ROCP5-3	0	-			0	0	0	-	-	0	5	2		-	7	2	2		-	4	5	5	4		14	2	2		-	4		2			2	2	2			4	033							
4	UK258ROCP5-4	0		-	-	0			-	-	-		-	-		-				-	-			-	-	-					-				-	-					-	00							
5	UK258ROCP5-5	5	5	-	-	10	5		-	-	5	2	2	-		4	-	-		-	-	2	5	4	-	11		5	0	*	5	4	4	-	-	8	4	4			8	04							
6	UK258ROCP5-6	7	6	6	-	19			-	-	-	6	6	6	-	18	-			-	-	2	5	4		11		-	-	-	-			-		-	10	10			20	06							
7	UK258ROCP5-7	5	5	5	-	15			-	-	-	6	6	6		18	-			-	-	4	4	4	٠	12		-			-	4	4	4	·	12	5	8		·	13	07							
8	UK258ROCP5-8	5	5	-	-	10	5	5		-	10	5	5	-	-	10	-	-		-	-	5	6	1	-	12	-		-		-	2	5	2	-	9	10	-			10	05							
9	UK258ROCP5-9	5	5	5	-	15	-		-	-	-	4	4	4	٠	12	-	-		-	-	5	4	-		9	4	-		-	4	5	5	5		15	10	10			20	07							
10	UK258ROCP5-10	7				7					-	4	4			8			١.		-	5	5			10						5	5	5		15	10	10			20	06							

Note: Marks awarded for each answer scripts are physically verified with original answer scripts and found correct.

Valuator Sign Name: DCA SON MOGRA Institution: BEC Bagalkot Date: 26/12/2021 Coordinator Sign Name: (CA) Pho (CA) (M) (M) (M) (College: BEC(A), Bagalkot Date: 26/12/2021

Total Marks in words





Basaveshwar Engineering College (Autonomous), Bagalkot-587103. Academic Year :2020-2021 Even Semester Theory Marks Sheet

Examination : SEE Course :BE Semester: 8

Subject Title:SATELLITE COMMUNICATION Subject Code :UEC812E

Packet Code :UK258ROCP5 Month/Year : July/August-2021 Max.Marks:100

S.No	Script Code	Total Marks		Marks in Wo	ords		
1	UK258ROCP5-1	063	ZERO	SIX	THREE		
2	UK258ROCP5-2	051	ZERO	FIVE	ONE		
3	UK258ROCP5-3	033	ZERO	THREE	THREE		
4	UK258ROCP5-4	000	ZERO	ZERO	ZERO		
5	UK258ROCP5-5	042	ZERO	FOUR	TWO		
6	UK258ROCP5-6	068	ZERO	SIX	EIGHT		
7	UK258ROCP5-7	070	ZERO	SEVEN	ZERO		
8	UK258ROCP5-8	8 052 ZERO FIVE					
9	UK258ROCP5-9	071	ZERO	SEVEN	ONE		
10	UK258ROCP5-10	060	ZERO	SIX	ZERO		

Note: Marks awarded for each answer script are physically verified with original answer script and found correct.

Valuator Sign

Name: Institution :BEC Bagalkot Date:26/12/2021

Coordinator Sign

Name :XXXXXXXXXXXXXXXXX College: BEC(A), Bagalkot

Date:26/12/2021

5. Use of OMR Answer Booklet

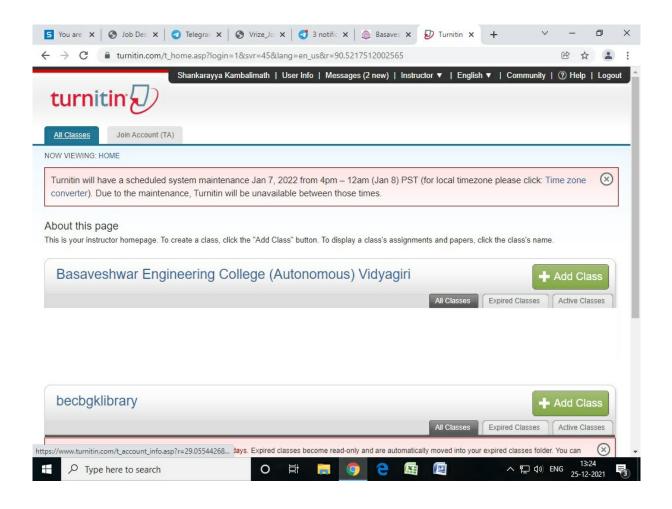
BASA	WESHWAR EN	B.V.V. Sangha		ONOMOUS).											
		BAGALKOT-5	87 103.												
The state of the s	OMR Res	ponse Answer She (Common to all bra		(XX											
USN	USN :														
(University Seat Number)															
Subject : ENVIRONMENTAL STUDIES Code :															
Code:															
Candidate's Signature Invigilator's Signature with Date															
	Question Paper Version Max Marks : 50														
Date :		\bigcirc B \bigcirc C \bigcirc) D()												
D D M	I M Y Y		. M:	arks obtained											
Instruction : D	Instruction: Darken only one circle completely to the corresponding correct answer														
1 (A) (B) (C) (D)	11 (A) (B) (C) (D)	21 (A) (B) (C) (D)	31 (A) (B) (C) (D)	41 (A) (B) (C) (D)											
2 (A) (B) (C) (D)	12 (A) (B) (C) (D)	2 (A) (B) (C) (D)	22 (A) (B) (C) (D)	42 (A) (B) (C) (D)											
3 (A) (B) (C) (D)	13 (A) (B) (C) (D)	23 (A) (B) (C) (D)	33 (A) (B) (C) (D)	43(A) (B) (C) (D)											
4 (A) (B) (C) (D)	14(A) (B) (C) (D)	24 (A) (B) (C) (D)	34 (A) (B) (C) (D)	44(A) (B) (C) (D)											
5 (A) (B) (C) (D)	15 (A) (B) (C) (D)	25 (A) (B) (C) (D)	35 (A) (B) (C) (D),	45 (A) (B) (C) (D)											
6 (A) (B) (C) (D)	16(A) B) (C) (D)	26 (A) (B) (C) (D)	36 (A) (B) (C) (D)	46(A) B) (C) (D)											
7 (A) (B) (C) (D)	17(A) B) (C) (D)	27 (A) (B) (C) (D)	37 (A) (B) (C) (D)	47(A) (B) (C) (D)											
8 A B C D	18(A) (B) (C) (D)	28 (A) (B) (C) (D)	38 (A) (B) (C) (D)	48 (A) (B) (C) (D)											
9 A B C D	19(A) (B) (C) (D)	29 (A) (B) (C) (D)	39 (A) (B) (C) (D)	49(A) B) (C) (D)											
10 (A) (B) (C) (D)	20(A) (B) (C) (D)	30 (A) (B) (C) (D)	40 (A) (B) (C) (D)	50(A) (B) (C) (D)											
Subject:	`\		Code:												

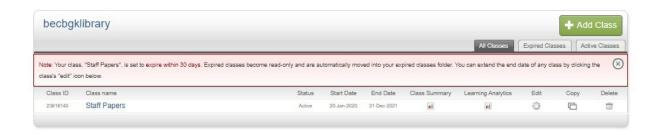


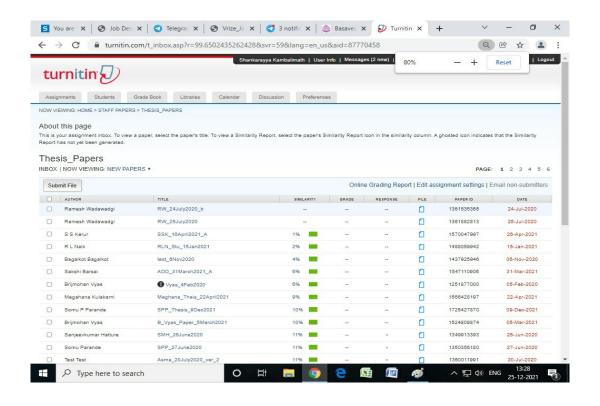
BVVS WAR ENGINEERING COLLEGE (AUTONOMOUS)

BAGALKOT - 587 102 OMR Response Answer Sheet for SEE (Common to all branches)															
USN (University Seat Number)															
Subject	Subject : Code :														
Date: D D M M Y Y Candidate's Signature Invigilator's Signature with Date															
Question Paper Version Max Marks : 50															
	A O B O C O D O	. 6													
Instruction : Darken only one circle completely to the corresponding correct answer															
1 A B C D E	11 (A) (B) (C) (D) (E) 21 (A) (B) (C) (D) (E) 31 (A) (B) (C)	(D) (E) 41 (A) (B) (C) (D) (E)													
2 A B C D E		D E 42 A B C D E													
3 A B C D E	13 A B C D E 2 A B C D E 33 A B C	D E 43 A B C D E													
4 A B C D E	14 A B C D E 24 A B C D E 34 A B C	D E 4 A B C D E													
5 A B C D E	15 A B C D E 25 A B C D E 35 A B C	D E 45 A B C D E													
6 A B C D E	16 A B C D E 26 A B C D E 36 A B C	D E 46 A B C D E													
7 A B C D E	17 A B C D E 27 A B C D E 37 A B C	(D) (E) 47 (A) (B) (C) (D) (E)													
8 A B C D E	18 A B C D E 28 A B C D E 38 A B C	D E 48 A B C D E													
9 A B C D E	19 A B C D E 29 A B C D E 39 A B C	D E 49 A B C D E													
10 A B C D E	20 A B C D E 30 A B C D E 40 A B C	(D) (E) (S) (A) (B) (C) (D) (E)													
	For office use only														
Marks obtained Tot	al Marks in words														
		Valuator Name													
	Signature of the Valuator	Institution / Organization													

6. Anti-Plagiarism check



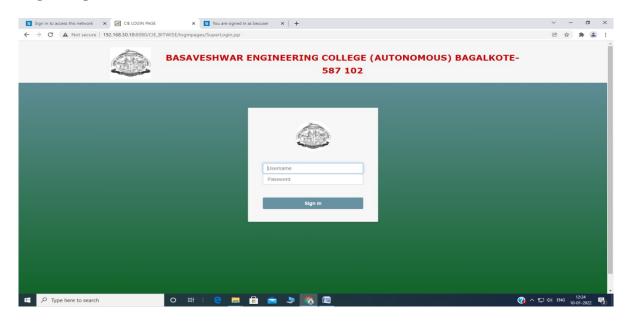




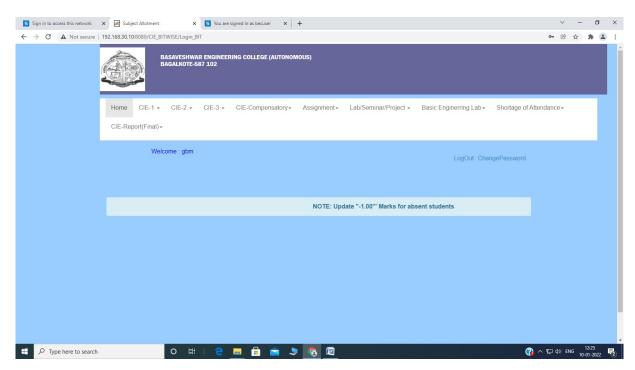
7. Implementation of ICT(Examination Tool)

CIE Marks Entry

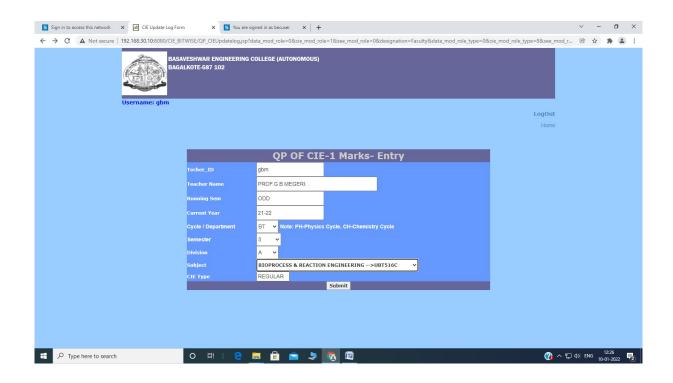
Login Page

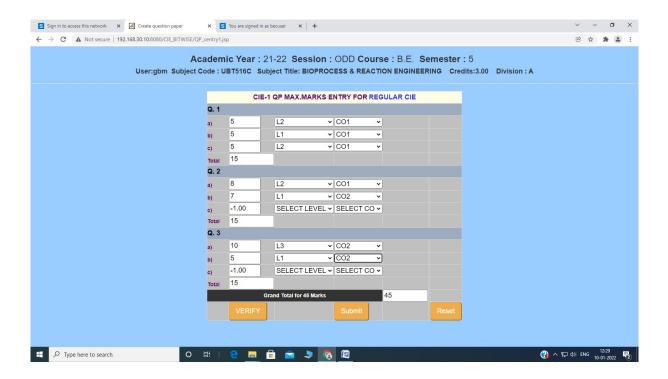


Home Page

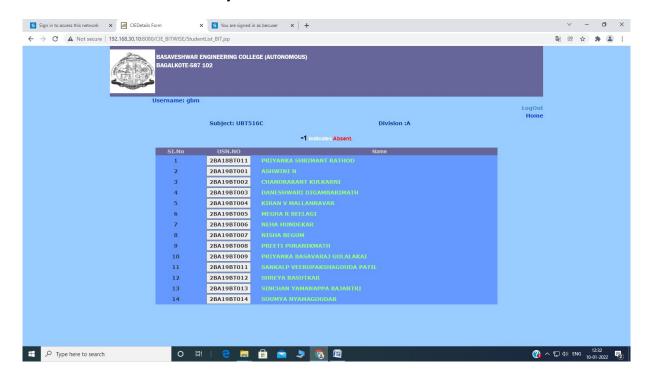


Question Paper Pattern Entry Page

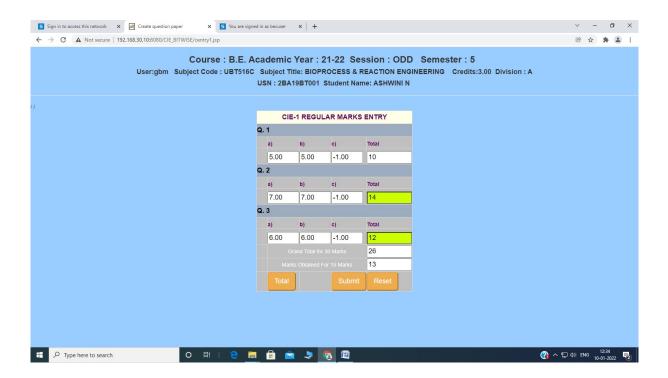




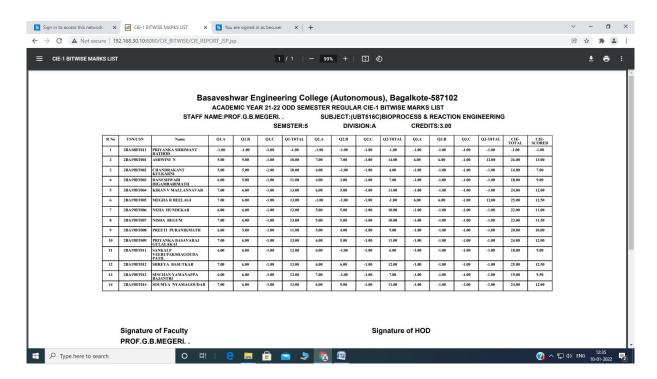
Student List for Marks Entry



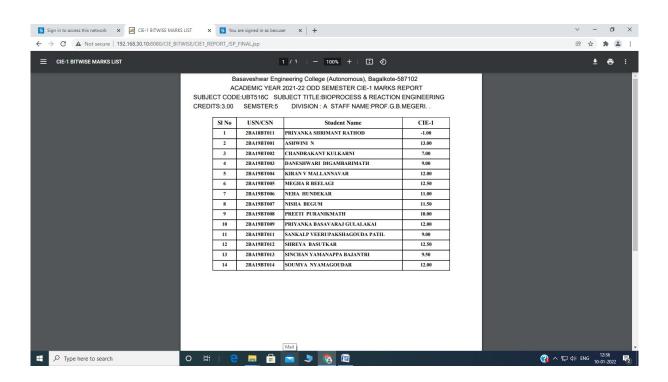
CIE Marks Entry Page



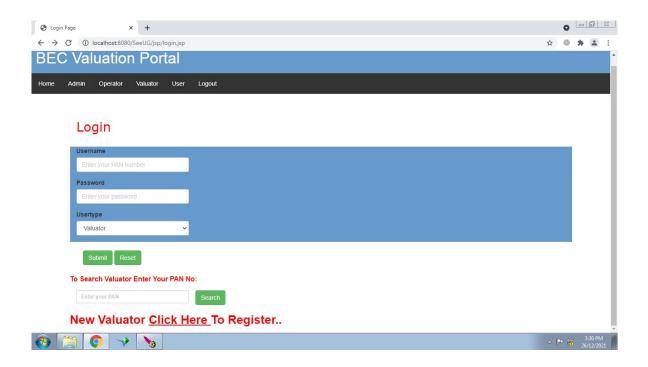
Bitwise Marks Report



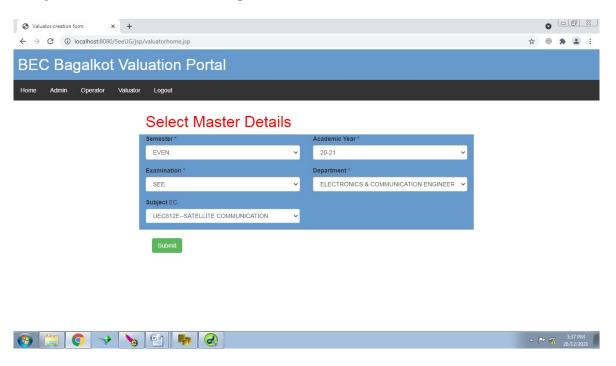
Final CIE Marks Report



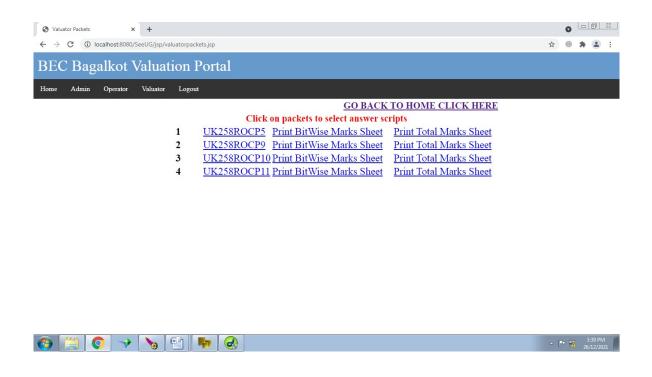
SEE Valuator Login Page



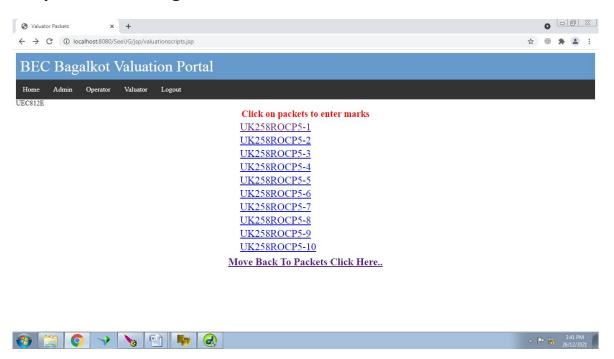
Subject Code Selection Page



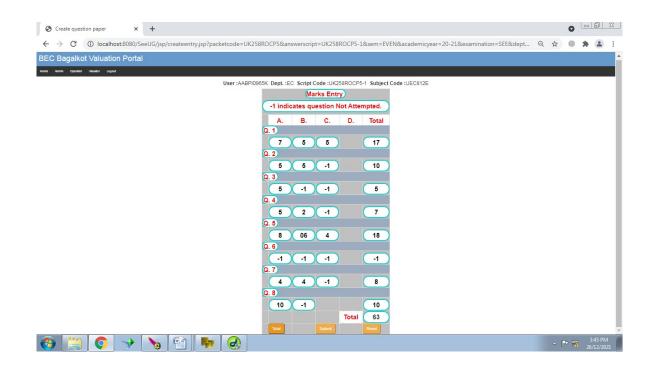
Packet Selection & Marks Sheet Printing Page



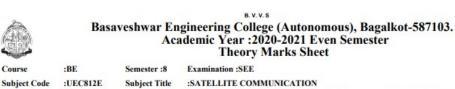
Script Selection Page



SEE Marks Entry Page



Bitwise Marks Sheet



Packet Code :UK258ROCP5 Month/Year : July/August-2021 Max.Marks:100

S.No	Scriptcode		Q	.Ne	.1			(Q.Ne	0.2			Ç	.No	3			().No	.4			Q	.No	.5			Q	.No	.6			Q	.No	.7			Q	.No	.8		Total Mark
		Λ	В	C	D	T	Λ	В	C	D	T	Λ	В	C	D	T	Λ	В	C	D	T	A	В	C	D	T	Α	В	C	D	T	Α	В	C	D	T	Λ	В	C	D	T	Mark
1	UK258ROCP5-1	7	5	5	-	17	5	5	-	-	10	5	-	-		5	5	2		-	7	8	6	4	-	18					-	4	4			8	10	-	-	-	10	063
2	UK258ROCP5-2	5	5		-	10			-	-	-		5	-	-	5	-	5	4		9		-	-	-	-	2	5			7	5	5	5		15	5	5	-		10	051
3	UK258ROCP5-3	0	-			0	0	0	-	-	0	5	2		٠	7	2	2	-	-	4	5	5	4		14	2	2		-	4		2			2	2	2	-		4	033
4	UK258ROCP5-4	0			-	0	-		-	-	-		-	-		-		-			-		-	-	-	-		-			-	-			-	-		-	-		-	000
5	UK258ROCP5-5	5	5			10	5		-	-	5	2	2	-	-	4	-	-		-	-	2	5	4	-	11	-	5	0		5	4	4	•		8	4	4	-		8	042
6	UK258ROCP5-6	7	6	6	-	19	-		-	-	-	6	6	6	-	18	-			-	-	2	5	4	-	11				-	-	-	-			-	10	10		-	20	068
7	UK258ROCP5-7	5	5	5		15	·	ŀ	-		-	6	6	6		18	-		·	-	-	4	4	4	-	12		-			-	4	4	4		12	5	8	-	-	13	070
8	UK258ROCP5-8	5	5	-	-	10	5	5	-	-	10	5	5	-	-	10	-	-		-	-	5	6	1	-	12			*		-	2	5	2		9	10	-	-	-	10	052
9	UK258ROCP5-9	5	5	5		15			-	-	-	4	4	4	٠	12	-	-		-	-	5	4	-	-	9	4	-		-	4	5	5	5		15	10	10		-	20	071
10	UK258ROCP5-10	7				7			-	-	-	4	4			8	-				-	5	5	-		10		-				5	5	5		15	10	10			20	060

Note:Marks awarded for each answer scripts are physically verified with original answer scripts and found correct.

Valuator Sign Name: Prof SOV Modelles Institution: BEC Bagalkot Date:26/12/2021 Coordinator Sign Name July (Ploya) (M) (M) (M) (College: BEC(A), Bagalkot Date: 26/12/2021

Total Marks in words





Basaveshwar Engineering College (Autonomous), Bagalkot-587103. Academic Year :2020-2021 Even Semester Theory Marks Sheet

Course :BE Semester: 8 Examination : SEE Subject Title:SATELLITE COMMUNICATION Subject Code :UEC812E

Packet Code :UK258ROCP5 Month/Year : July/August-2021 Max.Marks:100

S.No	Script Code	Total Marks		Marks in W	ords
1	UK258ROCP5-1	063	ZERO	SIX	THREE
2	UK258ROCP5-2	051	ZERO	FIVE	ONE
3	UK258ROCP5-3	033	ZERO	THREE	THREE
4	UK258ROCP5-4	000	ZERO	ZERO	ZERO
5	UK258ROCP5-5	042	ZERO	FOUR	TWO
6	UK258ROCP5-6	068	ZERO	SIX	EIGHT
7	UK258ROCP5-7	070	ZERO	SEVEN	ZERO
8	UK258ROCP5-8	052	ZERO	FIVE	TWO
9	UK258ROCP5-9	071	ZERO	SEVEN	ONE
10	UK258ROCP5-10	060	ZERO	SIX	ZERO

Note: Marks awarded for each answer script are physically verified with original answer script and found correct.

Valuator Sign

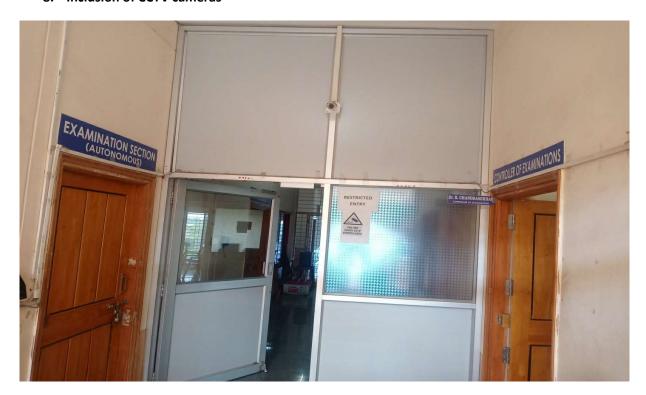
Name: DAXXXXXXXXXX Institution :BEC Bagalkot Date:26/12/2021

Coordinator Sign

Name:XXXXXXXXXXXXXXXI College: BEC(A), Bagalkot

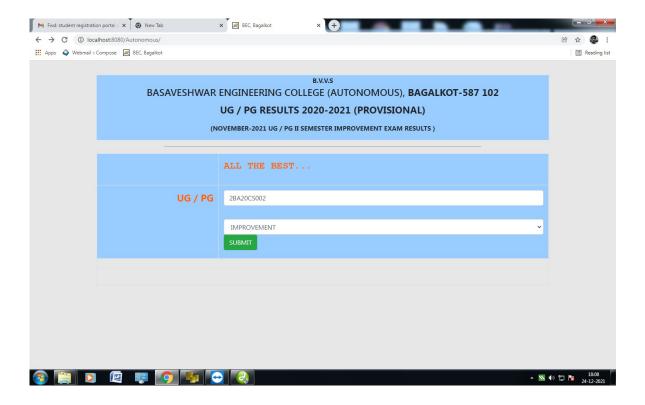
Date:26/12/2021

8. Inclusion of CCTV cameras

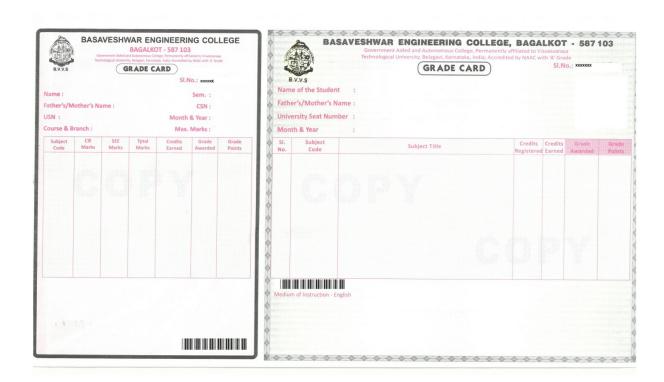




9. Declaration of Results



10. Inclusion of Security features on 'Statement of grades'



11. Online Payment

