

ACADEMIC RULES & REGULATIONS

Applicable to all Undergraduate Autonomous Programmes

2021 SCHEME – 160 CREDITS

Under Outcome Based Education (OBE)

AND

Choice Based Credit System (CBCS) Scheme

(WITH EFFECT FROM 2021)



VISION

To emerge as an institute of eminence in the fields of engineering, technology and management in serving the industry and the nation by empowering students with a high degree of technical, managerial and practical competence.

MISSION

- To strengthen the theoretical, practical and ethical dimensions of the learning process by fostering a culture of research and innovation among faculty members and students.**
- To encourage long-term interaction between the academia and industry through the involvement of the industry in the design of the curriculum and its hands-on implementation.**
- To strengthen and mould students in professional, ethical, social and environmental dimensions by encouraging participation in co-curricular and extracurricular activities.**

QUALITY POLICY

To provide educational services of the highest quality both curricular and co-curricular to enable students integrate skills and serve the industry and society equally well at global level.

VALUES

- Academic Freedom**
- Integrity**
- Inclusiveness**
- Innovation**
- Professionalism**
- Social Responsibility**

1 PROFILE OF THE INSTITUTION

1.1 ABOUT NHCE

New Horizon College of Engineering (NHCE) has un-paralleled history of nurturing young brains into engineers who are groomed to enter the global workforce with strong theoretical knowledge synergized with significant hands-on-experience. NHCE is located in Bangalore IT corridor with its state-of-the-art laboratories, instructional space and learning environment in an appropriate setting for one of the premier engineering colleges in Bangalore. In a short span, NHCE has become a much sought-after institute because of its successful track record. New Horizon College of Engineering is an Autonomous college affiliated to Visvesvaraya Technological University (VTU), approved by the All India Council for Technical Education (AICTE) & University Grants Commission (UGC). NHCE is accredited by NAAC with 'A' grade & all undergraduate programmes are accredited by National Board of Accreditation (NBA). We are proud to be in the Elite club of top ranked institutions and accorded Tier 1 accreditation for the 4 main BE programmes. New Horizon College of Engineering has been Ranked 141 amongst the Top Engineering Colleges across India, as per the National Institutional Ranking Framework (NIRF 2021) Rankings, announced by MHRD, Govt. of India. NHCE has secured All India Rank: 6th-25th (Band "A") in ARIIA-Atal Ranking of Institutions on Innovation Achievements (MHRD) under the Private Institutions Category for the year 2020.

1.2 MANAGEMENT COMMITTEE

The institution is managed by a team of visionaries, industrialists, highly qualified and well experienced educationists, ably supported by the Governing Council Members.

1.3 INFRASTRUCTURE

Every department has a congenial academic environment to promote quality education in the field of engineering and technology. Each department is fully equipped with modern laboratories and equipment.

The central facilities are as follows:

- ✚ Good ventilated classrooms
- ✚ Separate departmental Library
- ✚ Departmental offices
- ✚ Contemporary sports facilities
- ✚ Main Library

- ✚ Air-conditioned Auditorium
- ✚ Air-conditioned Seminar Halls
- ✚ Clinic
- ✚ Indian Bank
- ✚ Hostels (Boys & Girls)
- ✚ Cafeteria & Canteen
- ✚ Indoor & Outdoor Gym
- ✚ Reprographic Facility

1.3.1 LIBRARY & INFORMATION CENTRE

In the spacious and airy library, students have an access to the latest books, journals, computers, CD ROMs and multimedia. Separate study/discussion rooms are available for the students to study without any disturbance. The college also has the facility of digital library, video conference room and e-Shikshana.

The Library and Information Centre of New Horizon College of Engineering has a comprehensive collection of documents and electronic resources which are useful for Faculty members, Students and Research Scholars in their educational activities in the institute. The major objective of our Library and Information Centre is to provide right information to the right user at the right time.

LIBRARY TIMINGS

Library will be kept open 24 hours throughout the year.

Particulars	Ground Floor	Lower Level
Working Days	24 Hrs 365 Days	8.00a.m. –6.30 p.m.
Holidays		9.00a.m. –5.00 p.m.
During Examination		8.00a.m. –6.30 p.m.
During Vacation		8.00a.m. –6.00 p.m.

COLLECTIONS

Books, Journals/Periodicals, Bound Volumes, Technical/general magazines, Non-Book materials, News Papers, Question Papers, Syllabus, Project Reports, E-Journals, E- Books and many more electronic resources.

SERVICES

- ✚ Circulation Service
- ✚ Reference Service & NPTEL Service
- ✚ Online Reservation Services
- ✚ Digital Library Service
- ✚ Document scanning
- ✚ Document Printing
- ✚ OPAC (Online Public Access Catalogue)
- ✚ Reprographic Service
- ✚ Overnight Circulation Service
- ✚ E-Mail & SMS Service
- ✚ Organising Book Exhibition
- ✚ News paper clippings
- ✚ Online Lectures
- ✚ Plagiarism Checking

FACILITIES

- ✚ Library spread over two floors
- ✚ Stack Area
- ✚ Reference Section
- ✚ 600 seating capacity Reading Hall
- ✚ State of the art Digital Library
- ✚ E-Learning Center
- ✚ Video conference room
- ✚ Online class room with recording facility

- ✚ e-Shikshana Programme
- ✚ Students' discussion rooms
- ✚ Faculty discussion room
- ✚ Books and stationery outlet
- ✚ Coffee/Tea Point

DIGITAL LIBRARY& E-LEARNING CENTER

New Horizon College of Engineering library is having state of the art technology to provide maximum benefit to users. The digital library section is a step towards achieving excellence dissemination of information in the best possible manner. The library users can easily access the latest developments in different areas taking place in any part of the world. The digital services provided at our library cater to the collection and development of library materials in digital form. Online search for library books is available through Online Public Access Catalogue (OPAC).

Apart from this, we have subscribed electronic databases related to Engineering & Technology, namely IEEE, ASCE, IET Digital Library, Springer, Taylor & Francis, Knimbus, ProQuest, ASME and Taylor & Francis

LIBRARY INSTRUCTIONS

- ✚ Identity card should be shown at the checkpoint.
- ✚ Leave your bags, handbags and personal belongings at the depository/property counter.
- ✚ Students are prohibited from carrying any notebook inside the reference section except loose sheets.
- ✚ No person shall write on, damage or make any mark on any book, journal or other material belonging to the library.
- ✚ Books should be handled with great care and damage of books in any manner will be heavily fined.
- ✚ Students can retain the books for two weeks only, after which a fine of Rs. 1/- Per book per day (Rs.2/- after 15 days) will be charged.
- ✚ Students can borrow three books, 2CDs, 2 Periodicals at a time.
- ✚ Renewals are allowed only when there is no claim by others. No phone renewal will be entertained.
- ✚ A borrowed book if recalled by the Librarian must be returned immediately.

- ✚ Online reservation can be done for a book, which is already lent out. Reserved books are kept separately in circulation counter for two days for each member.
- ✚ Maintain a Queue at the circulation counter.
- ✚ Wearing ID-Card is compulsory.
- ✚ Usage of mobile phone is prohibited.

CENTRAL BROWSING FACILITY

- ✚ Internal lab for browsing and downloading information
- ✚ Broadband connectivity
- ✚ One to one system availability
- ✚ Hands-on time for the student during leisure time
- ✚ Linux Users' Group to facilitate the student project works.

1.3.2 LABORATORIES

The labs feature the latest technologies. A separate laboratory facility is available for Physics, Chemistry, Computer Science, Basic Electrical Engineering, Electrical Machines, Measurement & Circuits, Power Electronics, High voltage & relay, Power system simulation, Control systems, Multimedia, Advanced Micro processor & Interfacing, Internet, Project, Analog Electronics, Digital Electronics, Communication, Micro Processor, Digital Communications, Energy Conversion, Material Testing, Fluid Mechanics, Measurement and Metrology, Design, Heat & Mass Transfer, Foundry & Forging, Workshop Practice, Computer Aided Modeling & Analysis lab, Computer Integrated Manufacturing, Automobile Engineering lab 1 & lab 2, engine lab, chassis lab, Material testing lab, Geotechnical lab, Concrete & highway Material lab, Environment Engineering Lab etc

1.3.3 HUMAN RESOURCE DEVELOPMENT

The department of HRD is headed by an Executive Director. The main objective of this department is: Training the students in interview skills, personal grooming, Personality Development, arranging industrial visits and other related activities, in-plant training, Campus interviews for graduating students by the industries, Organizing / arranging for summer Internship, Final Placement for the students and also conducting Entrepreneur development programmes.

1.3.4 TRANSPORTATION FACILITIES

The college provides transport facility for student's commutation from selected points in Bangalore, on an annual payment basis. The charges levied depend on the pick-up and drop-in points and the distance involved. This facility is optional. Students who wish to use the college transport facility may meet the transport coordinator in the campus and register themselves. Bus pass can be obtained from the front office after paying the requisite bus fees. If, in the course of the year, there is a change in the residential address of the student, it can be brought to the notice of the Transport Manager with a request for a fresh bus pass for the new route; after examining the feasibility and availability, he may issue a fresh pass. If the seat is not available, the student may be kept in waiting list. Any tampering with bus pass or willful damage to bus will attract a severe penalty.

1.3.5 CULTURAL, SPORTS AND RECREATION FACILITIES

The college provides excellent facilities for sports and other recreational activities like playing outdoor games and indoor games. As part of co-curricular activities, fests are organized by the students of New Horizon College of Engineering and these provide an opportunity to bring out their latent talents. Students are also allowed to participate in Inter-collegiate Cultural and Technical fests and the necessary guidance is given to the participants. These activities help in the holistic development of the student's personality. NHCE also organizes every year a State Level Intercollegiate Mega Cultural Fest 'SARGAM', various technical fests like Tech Horizon, Hackathons etc.,

1.3.6 INDUSTRY INSTITUTE INTERACTION CELL

At NHCE the importance of Industry Institute Interaction is emphasized by establishing an exclusive cell. The purpose of Industry Institute Collaboration Cell which shall be referred to as IIC hereon is to ensure a paradigm shift in the thought process of a New Horizon student from J2C (Job to Career). This should lead a student towards identification of a SMART CAREER GOAL. At NHCE, we have 13 Centers of Excellence.

They are,

1. Cisco Networking Academy
2. Capgemini Industry 4.0 Lab
3. Capgemini PLM Lab
4. Capgemini VLSI Lab
5. Capgemini 5 G lab
6. Altair AI, ML and Data Analytics Lab

7. Oracle Academy Lab
8. Schneider Electric Lab
9. SAP Next Gen Lab
10. HPE Vertica
11. VMware IT Academy
12. IBM Open Power Lab
13. Automation Anywhere

1.4 FACULTY

The Faculty at NHCE are wholly dedicated to their task and are committed towards developing the full potential of each student. The Heads of the departments have the requisite experience and strong academic background. As the student teacher ratio is ideal, the promise at NHCE is that each student will get the adequate attention by the faculty.

1.5 ACADEMIC PROGRAMMES OFFERED

NHCE offers the following Under – Graduate and Post- Graduate programmes; it also offers a wide range of proficiency courses and plans to start a series of certificate and diploma courses soon.

1.5.1 UNDER GRADUATE PROGRAMMES

Sl. No.	Programme
1	B.E– Artificial Intelligence & Machine Learning
2	B.E – Civil Engineering
3	B.E – Computer Engineering
4	B.E – Computer Science & Engineering
5	B.E – Electronics & Communication Engineering
6	B.E – Electrical & Electronics Engineering
7	B.E – Information Science & Engineering
8	B.E – Mechanical Engineering

1.5.2 POST GRADUATE PROGRAMMES

Sl. No.	Programme
1	Master of Business Administration
2	Master of Computer Application
3	M.Tech in Computer Science & Engineering
4	M.Tech in Machine Design
5	M.Tech in Cyber Forensics & Information Security

1.5.3 STUDY ABROAD PROGRAMME

During the past two years, NHCE has actively partnered with the Ministry of National Education, France in various educational activities and collaborations. On 12/03/2018, an agreement was signed between NHCE and the Ministry of National Education, France to facilitate student-exchange programs between NHCE and various universities in France.

As a result of this agreement and a number of visits to France by the NHCE delegation, approximately 45 Final Year students from all the B.E branches will embark on a 11-week student exchange program in reputed universities in France starting Sept 2018. The Universities in France have provided this rare opportunity to our students to experience their educational system, technology and culture.

Every year 45 students are selected based on merit for study abroad program. The following are the Universities in France which have selected our students for the exchange program.

1. University of Rouen
2. University of Le Havre
3. ESIGELEC Rouen (Grand Ecole (French Ivy))
4. CESI Rouen
5. INSA Rouen
6. ISPA Alencon

1.6 PROFESSIONAL SOCIETIES

Professional societies active in the campus include ISTE, IPE, IEEE, SAE, CSI, NGKC, RAI,IEI, ICI, AIMS, AIMA, NHRD,CDAC, MTC - Global & NEN etc.

1.7 SCHOLARSHIP FACILITY

The Institute extends full freeship to the topper of the Institute every year. In addition to this the topper of each branch is given 50% freeship for PG courses in the campus. Apart from the Institute scholarship, Management also support the students to encash the Central and State Government scholarship as per norms.

1.8 THE INDUSTRY–INSTITUTE COLLABORATION

Our Institution has continuous Industry–Institute interface. Students undertake live industrial projects in reputed industries and research laboratories as part of the curricular requirements.

1.9 ACHIEVEMENTS & ACCOLADES

- a) **Academic:** Every year the Institution secures very good results. Many outstanding students have secured enviable positions in software and other industries, in campus selections.
- b) **Cultural:** Our students have been participating in various cultural activities at university and college levels.
- c) **Sports:** Our students have participated in various sports and events at the National and District levels, Home Tournaments and also in VTU sponsored sports activities.
- d) **R & D Facilities:** R & D Facilities have been set up in Computer Science & Engineering, Electronics & Communication Engineering, Information Science & Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Chemistry, Mathematics, MBA, MCA, Physics, Civil Engineering and Automobile Engineering.
- e) **Centers of Excellence:** 13 World class centers of excellence in partnership with industry are set up in the institution. MOUs with industry are signed for Industry–Institute collaboration

2 NOMENCLATURE OF PROGRAMMES

2.1 GENERAL

The nomenclatures and their abbreviations given below, are followed as per the suggestion given by the University:

UG Level:

Bachelor of Engineering (B.E.), B.E(Hon's) in all branches of Engineering
Besides, the branch subject of specialization, if any, shall be indicated in brackets after the abbreviation; e.g., B.E.(Mechanical Engineering)

2.2 PROGRAMME DURATION

- ✚ Ordinarily, the duration of fulltime academic programme shall be the same as that followed by the University, i.e., four years for B.E
- ✚ As a flexible credit system is to be followed for coursework at each Autonomous College, it is to be noted that the programme duration in the case of UG shall also be dictated by the period in which a student earns the prescribed credits for the Degree award. Hence, it is possible for an outstanding student to earn the required credits in a shorter time than that ordinarily prescribed for the relevant programme mentioned above.
- ✚ In such cases, as per the university norms, it shall be open to the Autonomous College to prescribe additional credits to be earned by a UG student in prior consultation with the University so as to qualify for the concerned Degree award with Honors or any other term associated with it.
- ✚ The maximum period which a student can take to complete a fulltime academic programme shall be the same as that prescribed by the University from time to time; e.g., double the nominal duration of the programme, i.e., eight years for B.E and 6 years for students admitted to II year B.E under lateral entry scheme.

Sl. No	Programme	Years	
		Minimum	Maximum
1	a) B.E(Lateral entry)	3	6
2	b) B.E	4	8

- ✚ Besides, the maximum period for a programme at Autonomous Colleges shall also be dictated by the fact that a student has to demonstrate the specified minimum academic performance by registering for the prescribed minimum number of credits in every semester for continuing with programme. And, this period can be equal to or smaller than the maximum period indicated as above.

2.3 ADMISSION OF STUDENTS

Admissions: The admission of students to various UG programmes is made by following the State Government and/ or the University Policies / Practices. In all the cases, we follow the necessary statutory provisions of reservation of seats to different categories of candidates from time to time.

There is provision for candidates with a polytechnic Diploma or any other qualification approved by the Council and the Commission to join UG Degree programmes at the beginning of the second year of the 4-year programme as per the prevailing practice in the University.

The students can opt to migrate from one branch or specialization to another branch or specialization at the same College or at another Autonomous / Affiliated / Constituent College under the University at the beginning of the second year. In these cases, we follow the Rules and Regulations of the University /Council.

Eligibility Criteria: The eligibility criteria for admission of students to program at the College are same as those prescribed by the University.

The eligibility criteria for admission of students from a non-Autonomous College to an Autonomous College, from one Autonomous college to another Autonomous college and from University scheme at an Autonomous College to its Autonomous Colleges, shall be fixed by the Academic Councils of the College, who shall frame suitable Rules for this purpose consistent with the objectives of academic autonomy. A copy of the Rules so adopted shall be sent to the University within a fortnight of such adoption.

The eligibility criteria for the admission of students from other Universities to the College shall be fixed by the Academic Council of the College by getting the individual cases examined by the concerned Board(s) of Studies and also by following the same criteria as above and recommending the names of such candidates qualifying for admission to the University for its approval.

2.4 SEMESTER SCHEME

As it is well known, the Semester Scheme provides several benefits to technical education programmes in contrast to the Annual Scheme. Therefore, the college adopts the Semester Scheme for their UG program.

Academic Calendar:

There shall be uniformity in the functioning of the Semester Scheme for all academic programmes across all Autonomous Colleges under the University as this can provide good academic flexibility to their stake holders, particularly the students and the faculty members. For this purpose, each academic year shall be

divided into semesters, with the calendar, durations and academic activities being fixed in advance by the Autonomous Colleges while maintaining a common opening/ reopening date for the odd semester. A copy of the calendar so fixed by the College and shall be forwarded to the University at least two weeks before the commencement of the academic year.

The breakdown of an academic year for implementing the Semester Scheme at Autonomous Colleges is given below:

Typical Breakdown of Academic Year into Semesters	
Number of Semester/ Year	<p>Three Semesters; Two being Main Semesters (Odd, Even) and one being a Supplementary Semester.</p> <p>Note: Supplementary Semester is primarily to assist the slow learners and/or repeater students for repeating the courses. However, the College may use this Semester to arrange Add-On Courses for other students and/or for deputing them for field work and/ or internship.</p>
Semester Durations (Weeks)	<p>Main Semesters (Odd, Even): 19 weeks each.</p> <p>Supplementary Semester : 8 weeks</p>
Academic Activities (Weeks)	<p><u>Main Semester:</u> Registration of courses – 0.5 week; Course work – 15.5 weeks; Examination Preparation – 1.0 week; Examinations – 1.0 weeks; Declaration of Results -1.0 week; Total: 19 weeks.</p> <p><u>Supplementary Semester (For Repeat):</u> Registration of courses – 0.1 week; Course work – 7.0 weeks ; Examination Preparation –0.2weeks; Examination –0.2weeks Declaration of Results-0.5 week; Total: 08 weeks</p> <p><u>Inter- Semester Recess:</u> After each Main Semester – 2 to 3 weeks, flexible After Supplementary Semester – 1 to 2, flexible. Total: 14 (for good students) and 6 (for slow learner students).</p> <p>Note: In each semester, there are various provisions for</p>

	<p>students like, Registration of courses at the beginning, Dropping of courses in the middle and withdrawal from courses towards the end, all being under the faculty members' advice.</p>
Examinations	<p>Continuous Internal Evaluation (CIE) and Semester End Examination (SEE) both having equal weightage in the students' performance in course work/ Laboratory work and other activities.</p> <p>NOTE: The CIE shall be conducted by the Course Instructor throughout a Semester on dates to be announced in advance and the results made known to the students from time to time. This will help the students to decide on Dropping of Courses or Withdrawal from Courses based on their performance and in consultation with their Faculty Advisors. The dates for SEE shall be jointly fixed by the college in consultation with the University so as to facilitate the students in the transfer of credits.</p>
Other Items	<ul style="list-style-type: none"> ✚ Care is taken by the College to ensure that the total number of days for academic work is ≥ 180/ year. ✚ Academic schedule prescribed by College is strictly adhered to, for success of the Semester Scheme. ✚ Supplementary Semester is mainly used by the College for conducting Repeat Course for the benefit of slow learners/ repeaters ✚ Students failing in any Course(s) at the College shall re-register for the same, when offered again and go through CIE and SEE in each case. ✚ Minimum, Maximum and Average Course loads per Semester are fixed by prior consultation with the University.

3 CREDIT SYSTEMS

3.1 GENERAL

As the Credit System has many advantages over the conventional system of organizing academic programmes, it is necessary to introduce an appropriate Choice Based Credit System (CBCS) for the various programmes. This will be of great benefit to the students in their preparations to meet the challenging opportunities ahead.

In the Credit system, the course work of students is unitized and each unit is assigned one credit after a student completes the teaching – learning process as prescribed for that unit and is successful in its assessment.

3.2 CREDIT DEFINITION

As it is desirable to have uniformity in the definition of credit across all Autonomous Colleges under the University, the following widely accepted definition for credit is followed at NHCE. This is mainly to provide good flexibility to the students. Here, one unit of course work and its corresponding one credit (while referring to a Main Semester) is equal to:

- i. Theory course, conducted for 1 hour/week
- ii. Laboratory course or tutorial, conducted for 2 hours/week.

The following additional factors may also be noted in this connection:

- ✚ The above numbers are multiplied by a factor of 2 in the case of the Supplementary Semester, and
- ✚ Other student activities which are not demanding intellectually or which do not lend to effective assessment, like practical training, study tours, attending guest lecturers will not carry any credit.

3.3 COURSE REGISTRATION

A student shall register for courses (core or elective) to earn credits for meeting the requirements of a Degree programme. Such course together with their grades and the credits earned shall be included in the Grade card issued by the College at the end of each semester, like odd, even, supplementary and it forms the basis for determining the student's academic performance in that semester.

3.4 SUPPLEMENTARY SEMESTER

When to offer Supplementary semester:

A student of UG programme will have opportunity to register for supplementary semester which is offered after 4th semester for courses from 1st to 4th semester and after 8th semester for courses from 5th to 8th semester. For registering to supplementary semester, the student should complete the Internship/s as notified in the University Regulations /directions. The students opting for supplementary semester between 4th and 5th semester must comply the missed internship requirement in the subsequent semester in the gap between 5th and 6th semester

WHO CAN REGISTER FOR Supplementary Semester

- ✚ The course/s for which the student does not possess satisfactory attendance and CIE score, shall be marked as NE in the Grade sheet. Such students are not permitted for SEE for the Courses marked as NE in Grade sheet. The students have to re-register only for course/s marked as NE in supplementary semester whenever that course is offered and obtain the required CIE and attendance. Subsequently, they are eligible to appear for SEE in such course/s.
- ✚ The student who obtains required attendance and CIE in supplementary semester, but obtains 'F' grade in SUPPLEMENTARY SEE, is permitted to appear for SEE subsequently as backlog course/s. The student need not repeat course for Attendance and CIE.
- ✚ All courses may not be offered in the Supplementary semester. It is the discretion of the College to offer the courses based on the availability of resources. The Institutes shall notify time table for Supplementary semester well in advance.
- ✚ Supplementary Semester is optional; it is for the student to make best use of the opportunity. Supplementary semester is a special semester and the student cannot demand it as a matter of right.
- ✚ A student is permitted to register for a maximum of 16 credits in Supplementary / fast track semester.
- ✚ A student has to choose those courses which are offered by the Institution in a given Supplementary Semester.
- ✚ In the supplementary semester, each course needs to be offered for required number of lectures/ tutorial/ laboratory hours as prescribed in the syllabus

Note: The students who have satisfied CIE and Attendance requirements for the course/s and obtained F grade in SEE are permitted to appear directly in ensuing

examination/s as backlog paper/s. The students need not re-register for such course/s in the supplementary/ fast track semester.

In case the student wishes to improve CIE/ he/she has to re-register for supplementary / fast track semester as and when offered next.

3.5 AUDIT COURSES

In Addition, a student can register for courses for audit only with a view to supplement his/her knowledge and / or skills. Here also, the student's grades will have to be reflected in the Grade Card. But these shall not be taken into account in determining the student's academic performance in the semester. In view of this, it may not be necessary for the Colleges to issue any separate transcript covering the audit courses to the registrants at these courses.

4 CREDIT STRUCTURE

A typical Credit Structure for coursework based on the above definition is given in Table below. This shall be applicable for the coursework of students registered for UG and PG at the College.

Refers to the Credit Values for different academic activities considered, Credits for the seminar, project phases, project viva-voce and internship shall be as specified in the Scheme of Teaching and Examinations.

Typical Credit Structure for coursework				
Lectures (L) (hours/week/ semester)	Tutorials (T) (hours/week/ semester)	Laboratory work (P) (hours/ week/semester)	Credits (L:T:P:S)	Credits (Total)
3	0	0	3:0:0:0	3
2	2	0	2:1:0:0	3
2	0	2	2:0:1:0	3
2	2	2	2:1:1:0	4
0	0	6	0:0:3:0	3

NOTE: Activities like practical training, study tour, and participation in Guest lecturers do not carry Credits.

Major Benefits: Major benefits accruing to the College by adopting the credit system are listed below:

- ✚ Quantification and uniformity in the listing of courses for all programmes at the College, like core (hard/ soft), electives and project work.
- ✚ Ease of allocation of courses under different heads by using their credits to meet national/ international practices in technical education.

- ✚ Convenience to specify the minimum / maximum limits of course load and its average per semester in the form of credits to be earned by a student.
- ✚ Flexibility in programme duration for students by enabling them to pace their course load within minimum /maximum limits based on their preparation and capabilities.
- ✚ Wider choice of courses available from any department of the same college or even from other similar Colleges, either for credit or for audit.
- ✚ Improved facility for students to optimize their learning by availing of transfer of credits earned by them from one College to another.

Thus, it is more appropriate to specify the eligibility requirements for a degree award based on course work, by prescribing the total number of credits to be earned, as an alternative to specifying the Programme Duration. This will be of great help in providing the well needed flexibility to the students in planning their academic programmes and their careers.

5 COURSE LOAD

In the planning of Coursework for an academic programme at the College, it is therefore necessary to specify the average Course load for a student per semester as well as its minimum and maximum limits.

Looking at the prevailing practices at leading institutions in India and abroad in this respect, taking into account the AICTE Model Curricula for UG Programmes (February 2018) and considering the academic strength and capability of an average student, University has fixed the course load at all Autonomous Colleges at 22 credits/ semester (average level) with its minimum and maximum limits being set at 16 to 28 credits respectively. This pattern is followed uniformly at NHCE by making a provision in its time table for the students to register for 22 credits on an average in each semester.

Course Flexibility: Further, as directed by the University to all the Autonomous Colleges, we shall follow the following practices for providing flexibility to the students in their academic programmes and to meet their varied needs:

- a. Faculty Adviser: There is a faculty advisory system (comprising its regular faculty members) established the College with each faculty advisor being assigned a group of students. The functions of Faculty Advisor shall be to:
 - ✚ Advise the students in the group on all academic matters (like registration of courses, dropping of courses and / or withdrawing from courses),
 - ✚ Monitor the students in the group for their individual academic performance,

- ✚ Identify students in the group who are slow, average or fast learners to help them pace their studies/ learning at the college based on their individual abilities, and
 - ✚ Serve as friend, philosopher and guide to all of them in the group during their studentship at the College
- b. With the faculty advisory system in place, a student to be normally permitted to register for the average course load in the first semester. And, based on the performance in the semester and faculty advice, he/she to continue with this load (for average and fast learners) or to reduce it to the minimum permissible (for slow learners) by dropping of/ withdrawing from some course(s) credits before the dates prescribed for these. This facility to assist the student to pace the course work, minimize the chances of failure in the course(s) and optimize the learning process.
 - c. The student's performance in the first semester to form the basis for faculty advice on the number of credits to be registered in the second (or subsequent) semester, (to be within the minimum / maximum limits of 16/28 credits). Further faculty advice and close monitoring to help a slow learner to pace the course work properly by reducing the course load, if required and to minimize the chances of failure in the semester.
 - d. The above experience to enable any student to properly plan his/her course load in each succeeding semester, by fixing it to be between ≥ 16 and ≤ 28 credit limits based on faculty advice and his/ her academic performance in the previous semester. Faculty advice to be useful to the student in identifying appropriate elective courses.
 - e. This experience also helps fast learners (or outstanding students) to accelerate their programmes by registering and maintaining up to the maximum (equal to 28 credits) course load in each succeeding semester based on their performance in the preceding and the current semesters. Such students to be able to complete the credit requirements of the programme in a shorter time, like 7 semesters in the case of B.E as example.
Similarly, slow learners to register only for the minimum (equal to 16) number of credits in each succeeding semester and strive to maintain good performance in all the courses registered and complete the total requirements for the programme at a slower pace, say 9 to 10 semesters, in the case of B. E/ B.Tech as example. **However, the student has to complete the programme within the permitted maximum duration.**
 - f. The College as per the direction of university has set uniform standards for enabling the vertical progression of students from one academic year to the next. The number of credits earned by a student during the semester / year and Semester Grade Point Average (SGPA) as well as the Cumulative Grade Point Averages (CGPA) shall serve as performance indices to determine the standards as given in the Guidelines. The College has a well-organized Faculty Advisory system, effective examinations/assessment system and a comprehensive academic

calendar prescribing specific dates for each activity, for good success in realizing the flexibilities.

The total number of credits to be earned by a student to qualify for the Degree/ Diploma/Certificate award from the College shall be as given below in Table

Programme		Normal Duration Years (Semesters)	Minimum number of Credits to be Earned
UG Degree	B.E	4.0 (8)	160
	B.E (Lateral entry)	3.0 (6)	120
	B.E (Honours)*	4.0(8)	160+18*
*Refer 9 - B.E (Honours) guidelines for details			

Contact Hours: Considering the expectations from engineering professionals with UG Degree in the 21st Century, it is desirable to limit the number of contact hours for students to 30-35/week. This will be of help to students in getting enough time and opportunity to do better preparation for the courses prescribed for credit, to take up self-study, to develop their creative talents and abilities and benefitting from the Add-On courses and those taken for audit. This can also enable them to get ready for challenging and exciting careers ahead. A typical example showing the calculation of contact hours based on course credits is given in the table below.

Calculation of Contact Hours / Week – An Example			
No. of courses	Credits of the course	Total credits	Contact hours per week
Three lecture courses	3:0:0:0	9	9
Two Lecture cum tutorial courses	3:1:0:0	8	10
Two Lecture cum Laboratory courses	3:0:1:0	8	10
one Lecture, Laboratory cum tutorial courses	1:1:1:0	3	5
Total		28	34

6 CURRICULUM FRAMEWORKS

6.1 General Issues

- a. Curriculum Framework is important in setting the right direction for a Degree/ Diploma / Certificate programme at a College, as it takes into account the type and quantum of knowledge necessary to be acquired by a student to qualify for a particular award in his/her chosen branch or specialization area.
- b. Besides, this also helps in assigning the credits for each course, sequencing the courses semester-wise and finally arriving at the total number of courses to be studied and the total number of credits to be earned by a student to fulfill the requirements for the conferment. The college also takes into account the AICTE Model Curricula notified from time to time and follow them so as to be abreast of the national trends in this connection.

6.2 B. E/ B. TECH. DEGREE PROGRAMME

The Curriculum Framework for a B. E/B. Tech. Degree programme is given below as an example. The programme includes the following courses.

6.2.1 RECOMMENDED COURSES

These include coursework under the following categories:

- ✚ Humanities and Social Sciences including Management (HSMC);
- ✚ Basic Sciences (BSC) (Mathematics, physics, Chemistry, Biology);
- ✚ Engineering Sciences (ESC) Materials, Workshop, Drawing, Computers);
- ✚ Professional Core (PCC), relevant to the chosen specialization / branch;
- ✚ Professional Electives (PEC), relevant to the chosen specialization /branch;
- ✚ Open Electives (OEC), from other technical and/ or emerging subject areas;
- ✚ Integrated Professional Core Courses (IPCC)
- ✚ Project Work (PROJ)- Integrated Professional Core Courses (IPCC)
- ✚ Seminar
- ✚ Internship in Industry or elsewhere
- ✚ Non-Credit Mandatory Courses (NMC)
- ✚ Ability Enhancement Courses (AEC)
- ✚ Universal Human Value Courses (UHV)

6.2.2 MANDATORY COURSES (MC) AND OTHER REQUIREMENTS:

The UG Degree programmes also require the inclusion of certain courses necessary for familiarity of subjects, like Environmental Studies, Constitution of India, Communication Skills, Chosen Language Knowledge/ Proficiency, NSS, NCC, Sports, Yoga as Mandatory Courses. Such courses shall not carry any credit for the award of the Degree. A pass in each course during the programme shall be a necessary requirement for the student to qualify for the Degree. The student's performance (like, pass or fail) in such Mandatory Courses will be included in his/her Grade Card/ transcript.

6.2.3 INDUCTION PROGRAMME AND INTERNSHIP

There is also a requirement now a days to include a 3- week Induction Programme for the first year B. E/ B.Tech students at the beginning of their 1st semester, as per the requirements of AICTE in its Model UG Curriculum (Feb. 2018.) Besides, there is also a mandatory requirement of Internship to be undertaken by all the UG students. The College has ensured that both these are fulfilled to the best possible extent.

6.2.4 ALLOCATION OF CREDITS FOR B.E / B.TECH. DEGREE PROGRAMME

Looking at the UG Engineering Degree programmes practiced at leading institutions in India and abroad and the need for Indian engineering professionals to be able to meet the 21st century challenges, we at our college follow the coursework breakdown as given in Table below. It is expected that this breakdown will lead to a highly useful and respectable B.E/ B.Tech. Degree programme under the University.

Typical Breakdown for the B.E./B.Tech. Degree Curriculum			
SL. No	Category	AICTE Breakup of Credits (Total 160)	Proposed Breakup of Credits (Total 160)
1	Humanities and Social Sciences including Management courses	12*	10
2	Basic Science courses	25*	23
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc	24*	20
4	Professional Core Courses	48*	43
5	Professional Elective courses relevant to chosen specialization/branch/ Ability Enhancement Courses	18*	14
6	Open subjects Electives from other technical, emerging, arts commerce and NCC/NSS subjects/ Ability Enhancement Courses	18*	14
7	Mini and Major Project work /seminar/ Summer Internship and Research /Industrial Internship	15*	32
8	Mandatory Non- Credit Courses [Environmental Sciences, Induction training, Indian Constitution, Universal Human Values, Kannada]	No credits	04
	Total	160*	160

6.2.5 SEQUENCING OF COURSES FOR B.E/ B.TECH. DEGREE

The above breakdown of the B.E/ B.Tech. Degree curriculum forms the basis for the sequencing of the coursework for the programmes at the College. Based on this, a typical sequencing plan for coursework for B.E/ B.Tech. Degree programme is given in the below Table. Sequencing of Courses for B.E/ B.Tech. Degree: The above breakdown of the B.E/ B.Tech. Degree curriculum forms the basis for the sequencing of the coursework for the programmes at the College. Based on this, a typical sequencing plan for coursework for B.E/ B.Tech. Degree programme is given below.

Typical sequencing plan for B.E /B.Tech. Degree Curriculum	
Semesters	Course Categories
I-II	<ul style="list-style-type: none"> • HSMC, BSC and ESC, Common for all Programmes as per AICTE Model Curriculum. • MC and Mandatory Induction Programme (3 weeks).
III-IV	<ul style="list-style-type: none"> • HSMC, BSC and ESC, Common for all Programmes (to be continued). • Also, MC (to be continued, if required). • IPCC, INT • PCC: In two/three groups (like Circuit, Non-Circuit). • Area-wise Orientation, Add-On Courses.
V-VII	<ul style="list-style-type: none"> • PCC/PEC/OEC, Core and Electives. • IPCC, AEC, HSMC • Branch-wise Orientation, Add-On Courses, Seminar, Internship.
VIII	<ul style="list-style-type: none"> • PEC/OEC, Electives, Project work (PROJ), Dissertation. • Add-On Courses, Seminar, Final wrap-up of Programme.

7 ASSESSMENT

7.1 ACHIEVEMENT TESTING

- a. The assessments of students' performance in course work during and / or at the conclusion of a programme are done using examinations.
- b. At NHCE, the assessment is preferably of the achievement testing type so that a student's knowledge, understanding and competence in the courses studied are properly assessed and certified. Therefore, we have introduced proper reforms in the examination system to achieve this goal. The Guidelines given below enable us to achieve this goal and gain the confidence and respect of our stake holders, particularly students. Typically, achievement testing is done in two parts, as follows: both of them being important in assessing the students' achievement:
 - ✚ **Sessional:** Involving Continuous Internal Evaluation (CIE), to be conducted by the course instructor all through the semester. This may include mid-term tests, weekly/fortnightly class tests, homework assignments, problem solving, group discussions, quiz, seminar, mini-project and other means.

✚ **Terminal:** Covering Semester End Examination (SEE) to be conducted at the end of the semester, by the course instructor jointly with an internal and external examiner, on dates fixed at the College level. This includes a written examination for theory courses and practical/design examination with built-in oral part for laboratory/design courses.

- c. Both CIE and SEE being equally important in judging the coursework performance of students, they need to be conducted with equal rigor and equal seriousness in the credit system. This makes it necessary that both of them are assigned equal (50:50) weightage. And, a student's performance in coursework shall be judged by taking into account the results of both CIE and SEE individually and also together by giving equal weightage for them

7.2 Continuous Internal Evaluation (CIE)

At the beginning of the semester, the course instructor or the faculty who is teaching the course shall have to announce the methods used for CIE.

Continuous Internal Evaluation Procedure:

The minimum CIE marks to be secured in all courses shall be 40% of the maximum marks. The following guidelines shall be followed for the CIE for various courses. **However, the BOS chairman has all the right to decide on the pattern of CIE for their respective courses and the same should be clearly mentioned in the syllabus copy after BOS approval.**

7.2.1 Theory Courses (02 or more credits):

- ✚ IA Tests: Three Tests each of 25 Marks (duration 01 hour) and take average of all 3
- First test at the end of 5th week of the semester
 - Second test at the end of the 10th week of the semester
 - Third test at the end of the 15th week of the semester
- ✚ Alternate Assessment: Assignments/Quizzes/participation in Seminar/workshops/ group discussion/Presentation/Self-study Projects/other Co-curricular activities suitably planned to attain the COs and POs for 25 Marks

The total CIE marks (maximum 50 marks) shall be the sum of the marks secured in IA Tests (average of all 3 tests) and alternate Assessment

7.2.2 Theory Course with 01 credit

- Three Tests (preferably in MCQ pattern with 25 questions) each of **25 Marks** and take average of all 3

1. First test at the end of 5th week of the semester
 2. Second test at the end of the 10th week of the semester
 3. Third test at the end of the 15th week of the semester Two
- Alternate Assessment: Assignments/Quizzes/participation in Seminar/workshops/ group discussion/Presentation/Self-study Projects/other Co-curricular activities suitably planned to attain the COs and POs for 25 Marks

The total CIE marks (maximum 50 marks) shall be the sum of the marks secured in IA Tests (average of all 3 tests) and alternate Assessment

7.2.3 Practical Courses:

CIE marks for the practical course is 50 Marks.

The split-up of CIE marks for record/ journal and test are in the ratio 60:40.

- ✚ Each experiment to be evaluated for conduction with observation sheet and record write-up. Spit up of marks for the evaluation of the journal/write-up for hardware/software experiments designed by the faculty who is handling the laboratory session and shall be made known to students at the beginning of the practical session.
- ✚ Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10 marks.
- ✚ Total marks scored by the students shall be scaled down to 30 marks (60% of maximum marks).
- ✚ Weightage to be given for neatness and submission of record/write- up on time.
- ✚ Department shall conduct 02 tests for 100 marks, the first test shall be conducted after the 8th week of the semester and the second test shall be conducted after the 14th week of the semester.
- ✚ In each test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% for viva-voce.
- ✚ The suitable split up of marks can be designed to evaluate each student's performance and learning ability
- ✚ The average of 02 tests is scaled down to **20 marks** (40% of the maximum marks).

The Sum of scaled-down marks scored in the report write-up/journal and average marks of two tests is the total CIE marks scored by the student

- ✚ Internal tests for laboratory courses with software experiments will be conducted for 100 marks
- ✚ Observation, write-up of procedure/ Algorithm/program, and execution of experiment will be assessed for 80 marks and Viva-voce for 20 marks.
- ✚ Scored marks out of 100 is scaled down to 50 marks

7.2.4 **Integrated Professional Core Courses (IPCC): Theory Integrated with practical Courses. (4 Credits)**

The CIE marks for the theory component of the IPCC shall be 30 marks and for the laboratory component 20 Marks.

CIE for the theory component of IPCC

- ✚ Three Tests each of 25 Marks (duration 01 hour), average of all 3 to be taken for 25 marks
- ✚ One assignment for 05 Marks

CIE for the practical component of IPCC (Integrated Professional Core Courses)

- ✚ On completion of every experiment/program in the laboratory, the students shall be evaluated and marks shall be awarded on the same day. The 15 marks are for conducting the experiment and preparation of the laboratory record, the other 05 marks shall be for the test conducted at the end of the semester.
- ✚ The CIE marks awarded in the case of the Practical component shall be based on the continuous evaluation of the laboratory report. Each experiment report can be evaluated for 10 marks. Marks of all experiments' write-ups are added and scaled down to 15 marks.
- ✚ The laboratory test (duration 03 hours) at the end of the 15th week of the semester /after completion of all the experiments (whichever is early) shall be conducted for 50 marks and scaled down to 05 marks.

Scaled-down marks of write-up evaluations and tests added will be CIE marks for the laboratory component of IPCC for **20 marks**.

- ✚ The minimum marks to be secured in CIE to appear for SEE shall be the 12 (40% of maximum marks) in the theory component and 08 (40% of maximum marks) in the practical component. The laboratory component of the IPCC shall be for CIE only. However, in SEE, the questions from the laboratory component shall be included. The maximum of 05 questions to be set from the practical component of IPCC, total marks of all questions should not be more than the 25 marks. The theory component of the IPCC shall be for both CIE and SEE.

7.2.5 Engineering Graphics /Drawing / Engineering Visualization Course

1. The CIE marks awarded in the case of Drawing shall be based on the weekly evaluation of class work (sketching and computer-aided drawing). Each drawing will be evaluated for marks as mentioned module-wise in the syllabus. Marks for all the drawing sheets are added and scaled down to 30 marks.
2. One class test similar to SEE will be conducted after completion of the syllabus for 100 marks and scaled down to 20 marks.
3. CIE marks (out of 50) scored by the student shall be the sum of class work evaluation and test marks.

The CIE marks awarded for higher semester Drawings/ Design Drawings offered by various branches shall be based on the evaluation of the sheets and one test in the ratio 80:20.

7.2.6 Continuous Evaluation(CIE) of Field Work

- + Surveying Practice / Socio-Economic survey/ Marketing survey/traffic survey/ environmental survey. CIE marks will be split into two components 80% of maximum marks (40 marks) are given for fieldwork report evaluation and 20% of maximum marks (10 marks) for internal assessment test evaluation.
- + Fieldwork evaluation includes attendance, data collection through survey, use of data for design drawing, and report. The split-up of marks for the report shall be decided by the faculty member who is guiding them for the design drawing and report. The criteria for split-up of marks shall be done to achieve the course outcomes. The report evaluation shall be carried out for 100 marks and scored marks shall be scaled down to 40 marks.
- + The assessment shall be through a presentation of the report followed by the viva-voce. This test shall be conducted by the fieldwork project guide and fieldwork coordinator. If the fieldwork coordinator happens to be the same faculty then, HOD or senior faculty member will conduct the test with the guide. A test similar to SEE will be conducted for 100 marks and marks scored by the student will be scaled down to 10 marks.
- + The sum of the report and test marks will be total CIE marks for fieldwork

7.2.7 Internship:

- The Internship shall be taken up during the period specified in the Scheme of Teaching and Examinations.
- The Department/ College shall nominate faculty member/s to facilitate, Guide, and supervise students under an internship.
- The students shall report the progress of the internship to the Guide in regular intervals and seek his/her advice. The Guide shall

maintain the progress record of the candidates undergoing internship.

Duration of Internships

- ✚ Inter/Intra Institutional Internship **03 weeks**
- ✚ Innovation /Societal /Entrepreneurship based Internship **04 weeks**
- ✚ Industry / Research Internship **24 weeks**

Report evaluation for Research / Industry internships shall be evaluated for 50% maximum marks – The split-up of marks suggested for report evaluation shall be based on the

1. Report formatting (20% of marks of CIE for report)
2. Presentation of the outcomes in the report (40% of marks for CIE for report) and
3. Technical content of the report (40% of marks for CIE for report)
(Weightage may be given for paper publication in reputed journal/refereed journal/ Conferences/Product developed/ Patent filed –only for Industry/Research Internship).

Viva-Voce conducted for 50% of marks of CIE. The split-up of marks suggested are

- ✚ For a demonstration of (soft) skills/Engineering Knowledge gained (50% of marks of CIE for Viva-voce).
- ✚ The question-answer session will be checked for the understanding of the fundamentals and concepts (40% of CIE marks for Viva-voce)
- ✚ Clarity in answering the questions (10% of CIE marks for Viva-voce)

Viva-voce will be conducted by the Mentor /guide and Head of the department one of the senior faculty assigned by the head of the department

7.2.8 Technical Seminar:

The maximum marks prescribed for CIE shall be evaluated for 100 and scaled down to 50. The marks awarded for Technical Seminar shall be based on the evaluation of the Seminar Report, Presentation skill, and Question and Answer session in the ratio of 50:25:25.

The Head of the Department shall make arrangements for the conduct of seminars through a committee of faculty members of the Department. The committee, constituted for the purpose by the Head of the Department, shall award the CIE marks for the seminar. The committee shall consist of three senior

faculty members of the Department and the senior-most acting as the Chairperson.

Split up of Marks suggested Report marks to be allotted by the seminar guide/s

- + Formatting of the report (10 marks)
- + Literature survey (20 Marks) and
- + Technical content of the report (20 marks)

Seminar Presentation marks to be allotted by the committee: (25 marks)

Viva-Voce (Question answer session): 25 marks

- + Understanding of fundamentals and concepts (15 marks)
- + Clarity in answering the questions (10 Marks)

7.2.9 Mini – Project:

The maximum marks prescribed for CIE shall be evaluated for 50. The CIE marks awarded for Mini-Project, shall be based on the evaluation of the Mini-Project Report, Project Presentation skill, and Question and Answer session in the ratio of 50:25:25. The marks awarded for the Mini-Project report shall be the same for all the batch mates.

50 marks of CIE for the report shall be evaluated by the faculty guide/mentor who is guiding the mini-project.

The Head of the Department shall make arrangements for the conduct of viva-voce evaluation of the mini-project. The committee shall consist of a guide/mentor and two senior faculty members of the Department. This committee shall evaluate Mini-project Work for 50 marks considering project presentation and question-answer session.

- + Project presentation: 25 marks
- + Question and answer session:25 marks

7.2.10 Project Work: The project work shall be evaluated considering both CIE and SEE; the maximum mark for CIE is 100.

The maximum marks prescribed for CIE shall be 100. The CIE marks awarded for Project Work shall be based on the evaluation of the Project Report, Project Presentation skill, and Question and Answer session in the ratio of 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.

50 marks of CIE for the report shall be evaluated by the faculty guide/Mentor who is guiding the project work.

The Head of the Department shall make arrangements for the conduct of viva-voce evaluation of the project work. The committee shall consist of a guide/mentor and two senior faculty members of the Department. This committee shall evaluate Project Work for 50 marks considering project presentation and question-answer session

- + Project presentation: 25 marks
- + Question and answer session: 25 marks

The candidate shall write tests, assignments/unit-tests /written quizzes in Blue-Books, which shall be preserved by the Principal/Head of the Department for at least 3 years after the announcement of University results and shall be made available for verification as per the direction of the Registrar (Evaluation).

7.3 QUESTION PAPERS

Question Paper pattern

For an effective achievement testing of students in a course, a good Question Paper needs to be used as the main tool. This makes it necessary for us to make sure that the question papers used at CIE and SEE to:

- + Cover all sections of the course syllabus uniformly.
- + Be unambiguous and free from any defects/ errors.
- + Emphasize knowledge testing, problem solving and quantitative methods.
- + Contain adequate data / other information on the problems assigned and
- + Have clear and complete instructions to the candidates.

Question Paper Planning

The above requirements make it necessary for a Question Paper to cover the entire syllabus, with a provision for the students to answer questions from the whole syllabus. As students need to be given some choice in the questions included in the paper, it is necessary for the question papers at SEE, in particular, must have built in choice under each module of the syllabus. This factor has been taken note of and strictly followed by our College, while planning of the Question papers.

Besides, it is also necessary for the course syllabi to be drafted properly, be defect-free and also properly given in modular form to enable the setting of good

question papers covering the whole syllabus. These aspects have been taken into account, in particular, by the Boards of Studies at the College.

Typical Question Paper

The questions to be included in the Question Papers at CIE and SEE can be of two types as follows.

- ✚ Comprehensive Questions, having all questions of the regular type to be answered in detail. Such a Question Paper to be useful in the testing of overall achievement and maturity of the students in a course through long questions relating to theoretical/ practical knowledge, derivations, problem solving, modeling simulation, design, application and quantitative evaluation.

7.4 EXAMINATIONS: MAINTENANCE OF STANDARDS

For ensuring a high standard in both CIE and SEE fully meeting the provisions of the University Statutes and being able to declare the results of students' performance at both these in a time bound manner as per our Academic Calendar, the college follow the points given below for conducting the examinations.

CIE: The CIE shall be conducted exclusively by the course instructor. The instructor to spell out the components of CIE to the students in advance, maintain transparency in its operation, declare the evaluation results in time and then return the answer scripts and assignment sheets to them as soon as possible. The instructor to also solve the questions from these test papers during tutorial sessions for the benefit of all the students concerned, especially slow learners.

- ✚ The candidates shall write the tests, assignments/unit-tests /written quizzes in Blue Books which shall be preserved by the Principal/ Head of the Department for at least six months after the announcement of University results and shall be made available for verification at the direction of the Registrar (Evaluation).

SEE: The SEE is conducted jointly by the course instructor and an external examiner appointed for this purpose. Here, the external examiner to mainly associate with the work of Question paper setting, because of the difficulties in having him/her for conducting the evaluation of students answer scripts due to the tight time schedule for the various tasks connected with SEE.

- ✚ It is compulsory to register for SEE if the student/s has satisfied the attendance and CIE requirement of ODD /EVEN semester.
- ✚ The examinations for all the Programs of study shall be conducted at the end of each semester.

✚ Students having no backlog course/s, may not have more than one examination on the same day. However, students having backlog course/s may face a situation where they may have

1. Two examinations scheduled at the same time of the day,
2. To take two examinations on the same day, one during the morning session and the other in the afternoon session, and
3. Examinations on consecutive days.

✚ As changing the examination dates is not an option, the examination timetable shall not be modified/ altered/ adjusted in any of the above three cases. In the first case, the students shall select any one of the clashing courses and in the second and third cases, the students shall manage the examinations as per their decision.

SEE – Answer Scripts: The answer scripts of SEE may be normally evaluated by the course instructor only. But as a healthy step, a Department Committee is set preferably to oversee this task and ensure the quality and standard of evaluation and also of the grades awarded in all the cases. Also, before declaring the results an external review is conducted.

External Review of SEE: An external review is conducted under the aegis of the Board of Studies / Board of Examiners of the College by appointing a panel of experts from outside the College for this purpose aiming at a complete review of SEE operation in the College. This includes such step as, question paper review, checking random samples of answer scripts, analysis of results/ grades awarded and other related aspects. This step is also necessary for gaining the confidence of the University and of the society at large, of the fairness, transparency and acceptability of the examination practice among the stakeholders.

Attendance standards: All students of the College Shall maintain a minimum attendance of 85% in each course registered. In case of any shortfall in this, the Academic Council of the College shall consider the same and may condone the deficiency in special cases up to 10% any student failing to meet the above standard of attendance in any course(s) registered may not be allowed to appear for SEE of such course(s) because of NSAR.

Attendance at CIE and SEE: Attendance at all examinations, both CIE and SEE of each course registered is compulsory for the students and there is no provision for re-examinations. Any student against whom any disciplinary action by the College/University is pending shall not be permitted to attend any SEE in that Semester.

NE: Students failing to secure the minimum percentage of attendance or CIE mark of any Course/shall not be eligible for the SEE conducted and they shall be considered as fail (NE) because of Not Satisfying Attendance Requirement

(NSAR)/Not Satisfying Sessional Requirement (NSSR) in that Course/those Courses. However, they can appear for SEE conducted in other Courses of the same semester.

The Course/s when repeated is considered as attempts.

Marks and Passing standards of SEE

Table : Passing Standards at Colleges using Absolute Grading	
Evaluation Method	Passing Standard
Sessional (Continuous Internal Evaluation)	Score: $\geq 40\%$
Terminal (Semester End Examination)	Score: $\geq 35\%$
The sum total of CIE and SEE marks must be 40% of the maximum marks prescribed for a course as per the scheme of teaching and examination	

- a. Examination for all Courses under SEE shall be conducted for a maximum of 100 Marks. The marks secured by the students for 100 marks shall be proportionately scaled down to a maximum of 50 marks to add the same with the CIE marks for the award of the letter grade.
- b. For all theory Courses of the Program, the maximum SEE marks shall be 50, the minimum SEE marks to be secured shall be 35 % of the maximum marks i.e., 18 marks
- c. For Practical/Fieldwork/ Internship, Innovation / Technical Seminar Societal/Entrepreneurship based Internship and Mini- Project the maximum SEE marks shall be 50, the minimum SEE marks to be secured shall be 35 % of the maximum marks i.e., 18 marks.
- d. For 24 weeks of Research / Industry Internship /Major Project the maximum SEE marks shall be 100, the minimum SEE marks to be secured shall be 35% of the maximum marks i.e., 35 marks.
- e. The sum total of CIE and SEE marks must be 40% of the maximum marks prescribed for a course as per the scheme of teaching and examination
- f. Students who satisfy the above conditions, and obtain any grade from O to P in a course shall be considered to have passed that course.
- g. A student shall be declared fail if he/she
 - a. Fails to satisfy the conditions (d) above
 - b. Absents himself/herself to the University examination.
 - c. Is held guilty of examination malpractice and for any other reasons and declared the performance of any course/s as null and void by the competent authority.

- d. The course/s in which student/s fail to satisfy attendance and CIE requirement (NE courses) are also considered as F only.
- h. If a student secures an F grade in any of the Courses, he/she shall reappear for that Course(s) during the subsequent SEE. The CIE marks awarded to the student at the first attempt in the concerned Course(s) shall be carried forward. Revised CIE marks are considered only in cases NE (not eligible to appear for SEE due to non-comply of attendance and CIE) cases.
- i. A student shall be declared to have completed the programme of BE degree and is eligible for the award of degree, provided the student has undergone the stipulated Course work of all the semesters under the same Scheme of Teaching and Examination and has earned the prescribed number of credits.
- j. Over and above the academic credits, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points** respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.
- k. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression. In case a student fails to earn the prescribed activity Points, eighth semester Grade Card shall be issued only after earning the required activity Points. The student shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

8 GRADING

8.1 GENERAL

In recent years, the grading system has replaced the evaluation of students performance in a Course based on absolute marks, because of its many advantages. Here again, it is necessary to maintain uniformity in the grading practices at different Colleges to ensure that the migration of students to transfer of credits among Autonomous Colleges under the University is made easy.

Letter Grades: Letter Grade: Course Letter Grade (or simply letter grade or grade) is an index of performance of a student in a said course and refers to a qualitative measure of achievement of a student in each course, based on the percentage range of marks secured in CIE and SEE put together.

Grades are denoted by letters O, A+, A, B+, B, C, P and F. The rubrics attached to letter grades are as follows:

O - Outstanding, A+ - Excellent, A - Very Good, B+ - Good, B - Above Average,

C - Average, P-Pass and F - Fail.

If student remain absent for SEE of any of the course, the letter grade assigned to that course shall be F.

NE: If a student fails to satisfy Attendance and / or CIE requirement for course/s then such course/s shall be marked as Not Eligible (NE)" i.e. Not eligible to appear for SEE in that Courses/s.

8.2 GRADE POINTS

- a. Depending on the letter grades assigned, a student earns certain grade points. As the grading system can have different scales for grade points (like 5, 8, and 10) with more number of points in the scale being desirable for providing higher resolution in the assessment. Moreover, all Autonomous Colleges under the University need to follow the same scale for uniformity in their operations. Hence, the Autonomous Colleges under the University shall follow the 10-Point grading system, as given in Table below for absolute grading system.

Letter Grade and corresponding Grade Points on a typical 10 - Point scale								
Letter Grade	0	A+	A	B+	B	C	P	F
	Outstanding	Excellent	Very Good	Good	Above Average	Average	Pass	Failing
Grade	10	9	8	7	6	5	4	0
% of Marks secured	90-100	80-89	70-79	60-69	55-59	50-54	40-49	0-39

If a student remains absent for SEE of any of the courses, the letter grade assigned in the grade card to that course shall be **F**. If a student is not eligible to appear for SEE due to non-comply of any of the course/s then letter grade assigned against that course/s shall be **NE**.

- b. The grade Points given in the above table will help in the evaluation of credit points earned by the students in a course. As the credit points are equal to the number of credits assigned to the course multiplied by the grade points awarded to the students in that course. This shall be used in arriving at the credit index of the student for that semester, as it is the sum of total of all the credit points earned by the student for all the Courses registered in that semester.
- c. **Earning of credits:** A student shall be considered to have completed a course successfully and earned credits if he/ she secures an acceptable letter grade in the range O to P. Letter grade F in any course implies failure of the student in that course and no credit shall be earned.

- d. Transitional grades:** The transitional grades, such as, 'I', 'W' and 'X' shall be awarded to a student in the following cases. These grades need to be converted into one or the other of the letter grades (O-F). After the student completes his/her course requirements, including the examinations.
- **Grade 'I':** Awarded to a student having satisfactory attendance at classes and meeting the passing standards at CIE in a course, but remained absent from SEE for valid and convincing reasons acceptable to the college, like :
 - Illness or accident, which disabled him/her from attending SEE
 - A calamity in the family at the time of SEE, which required the student to be away from the college
 - Any other verifiable exigency
 - **Grade 'W':** Awarded to a student having satisfactory attendance at classes, but withdrawing from that course before the prescribed date in a semester under faculty advice.
 - **Grade 'X':** Awarded to a student having high **CIE rating (>90%)** in a course, but SEE performance observed to be poor, which could result in an overall F grade in the course.
- e. Make-up Examination:** The make-up examination facility shall be available to the students who may have missed to attend the SEE of one or more courses in a semester for valid reasons and given the 'I' grade. Student having the 'X' grade (as per VTU standard, approved in ACM) shall also be eligible to take advantage of the facility. The Make-up examination shall be held as per dates notified in the academic calendar. However, it will be possible for autonomous college to hold this examination at any other time in the semester with the permission of its academic council. In all these cases the standard of the make-up examination shall be the same as that of regular SEE for the Courses.
- f.** All the 'I' and 'X' grades awarded to the students shall have to be converted to the appropriate letter grades and communicated to the college authorities within two days of the respective Make-Up Examinations. Any 'I' and 'X' grades still not converted within two days after the last schedule Make-Up Examinations shall be automatically converted to 'F' grade.
- g.** All the 'W' grades awarded to the students shall be eligible for conversion to the appropriate letter grades only after the concerned students re-register for these Courses in a main (odd/even) or Supplementary semester and fulfill the passing standards for their CIE and (CIE+SEE) as prescribed at the Autonomous College.

8.3 GRADE CARD:

Each student shall be issued a Grade Card (or transcript) at the end of each semester. This will have a list of all the Courses registered by a student in the semester, together with their credits, the letter grades with grade points awarded in each case. Courses registered for credit and having grade points shall be included in the computation of the students' performance, like SGPA and CGPA. And, the Courses, taken for audit will not form part of this computation. The results of mandatory courses, which are of the non-credit type, shall also be reflected in the Grade Card as PP (for Passed) or NP (for Not Passed). It may be noted that each UG student shall have to obtain the grade PP in each mandatory course to qualify for the Degree award by the University.

If a student remains absent for SEE of any of the courses, the letter grade assigned in the grade card to that course shall be **F**. If a student is not eligible to appear for SEE due to non-comply of any of the course/s then letter grade assigned against that course/s shall be **NE**

8.4 GRADE POINT AVERAGES

SGPA and CGPA: The Credit index can be used further for calculating the Semester Grade Point Average (SGPA) and the Cumulative Grade Point Average (CGPA), both being important academic performance indices of the student. While SGPA is equal to the credit index for a semester divided by the total number of credits registered by the student in that semester, CGPA gives the sum total of credit indices of all the previous semesters divided by the total number of credits registered in all these semesters. Both the equations together facilitate the declaration of academic performance of a student, at the end of a semester and at the end of successive semesters respectively. Thus,

$$SGPA = \frac{\sum[\text{Course Credits} \times \text{Grade Points}] \text{ for all the Courses in that semester}}{\sum[\text{Course Credits}] \text{ for all the Courses in that Semester}}$$

$$CGPA = \frac{\sum[\text{Course Credits} \times \text{Grade Points}] \text{ for all Courses excluding those with F grades until that semester}}{\sum[\text{Course Credits}] \text{ for all Courses excluding those with F grades until that semester}}$$

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the grade cards. SGPA and CGPA calculation.

Illustrative Example: An Illustrative example given in Table below indicates the use of the two equations in calculating SGPA and CGPA. Both of them shall be normally calculated up to the second decimal position, so that the CGPA, in particular, can be made use of in rank ordering the students' performance in a

class at a Autonomous College. If two students get the same CGPA, the tie may be resolved by considering the number of times a student has obtained higher SGPA. But, if it is not resolved even at this stage, the number of times a student has obtained higher grades like S,A,B, may be taken in to account in rank ordering of the students in the class.

SGPA/CGPA Calculations: An Illustrative Example						
Semester (Odd:I, Even:II)	Course No.	Credits	Grade	Grade Points	Credit Points	SGPA, CGPA
I	XX11	5:0:0	B	8	40	SGPA =117/20 =5.85
I	XX12	3:2:0	NE	-	-	
I	XX13	3:0:0	A	9	27	
I	XX14	0:1:1	F	0	00	
I	XX15	4:1:0	D	6	30	
I	XX16	5:0:0	E	4	20	
Total		20(18*)	Total		117	
II	XX21	3:1:1	C	7	35	SGPA =157/25 =6.28
II	XX22	4:0:0	B	8	32	
II	XX23	3:0:0	D	6	18	
II	XX24	4:1:0	E	4	20	
II	XX25	2:1:1	A	9	36	CGPA =274/41 =6.68
II	XX26	2:0:0	F	0	00	
I	XX14	0:1:1	B	8	16	
Total		25(23*)	Total		157	
Supple- mentary						
Supple- mentary	XX102	3:2:0	D	6	30	SGPA =56/9 =6.22
Supple- mentary	XX104	0:1:1	C	7	14	
Supple- mentary	XX112	2:0:0	D	6	12	CGPA =330/50 =6.60
TOTAL		9	TOTAL		56	
*Total No. of Credits excluding those with 'F' and 'W' grades particularly important to keep track of the number of Credits earned by a student up to any semester.						

CGPA Calculation of the Program: An Illustrative Example								
Semester	I	II	III	IV	V	VI	VII	VIII
Credits of the semester	20	20	20	20	20	20	24	16
SGPA	5.0	6.73	9.20	6.86	8.18	7.73	9.18	9.40
ΣCrP	100	175	220	165	204	185	184	169
$CGPA = [100+175+220+165+204+185+184+169] / 160 = 1402 / 160 = 8.76$								
For Lateral Entry Students $CGPA = [220+165+204+185+184+169] / 120 = 1127 / 120 = 9.39$								

9 VERTICAL PROGRESSION:

All the below clauses are subject to a maximum duration of eight (for Regular Students) / six years (for Lateral Entry Students) as applicable.

1. In case of students admitted to the first year:
 - i. Students have to fulfill the attendance and CIE requirement to appear for SEE of course/s of 1st year
 - ii. Students having not more than four F grades in the 1st and 2nd semesters of the first year of the program shall be eligible to move to the 3rd semester (2nd year) of the program. These courses include courses marked as NE.
 - iii. The students who fail to satisfy CIE and attendance requirement has to repeat the courses whenever offered next and become eligible for the 2nd year.
2. **Obtaining CIE:** From the (3rd semester) second year onwards the student who obtains the required attendance for the course, but not the required CIE marks is allowed to move forward to the next semester. However, the student has to mandatorily obtain the required CIE in the subsequent semester. Obtaining minimum CIE marks for the course is mandatory. It may also be noted that the student shall not be permitted to appear for SEE in such courses until he/she obtains the required CIE.
3. **Carryover of backlog courses:** From 3rd semester onwards the student/s who obtains required attendance, CIE, and appears for Semester End examinations but fails (F Grade) to pass a course/s is allowed to move forward to the next semester (odd /even) irrespective of a number of F grades. However, for the award of degree, the student has to pass in all courses as per applicable scheme and regulations and earn the prescribed credits. This is subject to a permitted maximum duration. **It may also be noted that the student will be given admission to the IV year (7thsemester/8th semester) provided he/she passes all courses of 1st and 2nd semesters.**
4. **From the second year onwards,** there shall be no restriction from promotion from an even to next odd semester (or odd to next even

semester) even if the student has not satisfied the attendance requirement in one or more courses (including bridge courses for lateral entry students) shall not be eligible to appear for the Semester End Examination (SEE) of that course(s). The student shall be required to repeat that course whenever offered next.

5. **Permitted Maximum credits for registration:** The student shall be permitted to register for total courses not exceeding **28 credits**. These 28 credits include the courses of the regular semester and backlogs. The registration of these additional credits includes the courses having a shortage of attendance and the courses whose CIE requirements are not fulfilled. A student has to pay the prescribed fee as notified by the University from time to time.

Successive Failures:

- ✚ If a student fails to pass a Course even after four attempts, that course is deemed to be exempted for him/her. Then, the student may choose a course of his / her choice with the same number of credits from the pool of courses suggested by the concerned Board of Studies. The course so selected should not have been studied by the student or to be studied in higher semester/s. The faculty advisor shall guide/advise the student in this regard. The college has to make arrangements for the registration and conduction of CIE for the selected course.
- ✚ This provision is given only for two courses (one at a time) during the entire maximum duration of a course. This provision is optional; the student/s can continue appearing for SEE with the same course without opting for a change of course.

Readmission:

- ✚ Students who are temporarily discontinuing the program and getting readmitted or rejoin to the eligible semester are subject to a maximum duration of eight (for Regular students) / six (for lateral Entry students) years as applicable.
- ✚ The permission for readmission is only on request through the Principal and is not treated as a matter of right. Such students shall not claim any benefits based on the readmission.
- ✚ Students who take re-admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons, shall attend and complete all the remaining semester/s of the program adhering to the regulations of the prevailing scheme and shall complete additional Course/s, if any, as per the decision of equivalence committee in concurrence with concerned Board of Studies on establishing the equivalence between two schemes. Such a candidate shall not be eligible for the award of rank.

- ✚ Readmission to odd/even semester shall not be considered as fresh admission and therefore students shall continue to have the same University Seat Number, which was allotted at the time of admission to the program. The maximum duration of the Program shall be counted with reference to the USN (University Seat Number) allotted during admission to the program.

10 Permitted Maximum credits for registration:

The student shall be permitted to register for total courses not exceeding 28 credits. These 28 credits include the courses of the regular semester and backlogs. The registration of these additional credits includes the courses having a shortage of attendance and the courses whose CIE requirements are not fulfilled. A student has to pay the prescribed fee as notified by the University from time to time.

The candidates who have temporarily discontinued the Program of study or changed the scheme of study from one to another because of various reasons or transferred with credits from the autonomous college of VTU /other University to non-autonomous constituent/affiliated college of VTU, shall be eligible for the award of degree provided the credits earned at that stage are equal to or greater than the credits decided by the University in the individual cases.

In case, the forecasted or estimated credits are going to be less than that of the credits prescribed by the University on the completion of all the semesters of the program under the prevailing scheme, the candidate shall register for a course or courses not studied earlier and make up the credits which are equal to or greater than the university prescribed credits.

11 REJECTION OF RESULTS:

1. A student may, at his/her desire can reject the total performance of a year (including CIE marks). The rejection is permitted only once during the entire Programme of study.
2. The student who desires to reject the results of a year shall reject performance in all the Courses of the year, irrespective of whether the student has passed or failed in any Course. However, the rejection of performance of VIII semester project shall not be permitted.
3. Readmission to any year in such cases shall not be considered as fresh admission and therefore the student will continue to have the same University Seat Number, which was allotted earlier. The Course duration will be counted with reference to old USN.

Students who opt for rejection of results shall be eligible for the award of degree and Minor Degree but not for the award of ranks and Honors degree.

12 Multiple Entry and Exit Option

Entry 1: (at 1st semester) A program of study leading to entry into the first year of the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment at the secondary level of education specified in the program admission regulations.

Exit 1: The exit option is given to the student at the end of year 1 (after the 2nd semester). The student has to complete all academic requirements of 1st year of the undergraduate program and earned requisite credits of 1st and 2nd semester and recommendation of the counselling team of the Institute

Entry 2: (at 3rd semester) A program of study leading to the second year of the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment, in the program

Admission regulations. Admission to a program of study is based on the evaluation of documentary evidence (including the academic record) of the applicant's ability to undertake and complete a Bachelor's degree program.

This option is open to those who have left after completion of the 1st year of the program and want to join back for the continuation of their study subject to the condition of a maximum duration of 8 years from the date of 1st admission.

Student opting for multiple entries a3rd-semester level has to undergo a mandatory Summer Internship-I (21INT49) of 03 weeks during the intervening period of semester III and IV. CIE shall be conducted in the 3rd semester and prescribed credits earned for the internship shall be entered into the grade card of the IV semester.

Exit 2: The exit option is given to the student at the end of year 2 (after the 4th semester). The student has to complete all academic requirements to complete the two years of the undergraduate program and earned requisite credits of 1st 2nd 3rd and 4th semesters and recommendation of the counselling team of the Institute

Entry 3. This option is open to those who have left after completion of the 2nd year of the program and want to join back for the continuation of their study subject to the condition of a maximum duration of 8/6 years from the date of 1st admission.

A program of study leading to the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment. Admission to a program of study is based on the evaluation of documentary evidence (including the academic record) of the applicant's ability to undertake and complete a Bachelor's degree program.

Students opting for multiple entries at the 5th-semester level have to undergo mandatory Summer Internship-II (21INT69) of 04 weeks during the intervening period of semesters V and VI. CIE shall be conducted in the 5th semester and prescribed credits earned for the internship shall be entered into the grade card of VI semesters.

Exit 3. (after 6th semester) On successful completion of three years, the relevant degree shall be awarded. The student has to complete all academic requirements to complete the three years of the undergraduate program and earned requisite credits of 1st to 6th semester and recommendation of the counselling team of the Institute

13 Award of Class:

Sometimes, it is necessary to provide equivalence of these averages, viz., SGPA and CGPA with the percentages and /or Class awarded as in the conventional system of declaring the results of University Examinations. This shall be done by Autonomous College under the University only at one stage by prescribing certain specific thresholds in these averages for First class with Distinction, First Class and Second Class, at the time of Degree Award. This provision given below in Table follows the approach of the Council for this purpose as reproduced from the AICTE Approval Process Handbook.

14 Conversion of CGPA to Percentage

The Following Formula for **Conversion of CGPA to Percentage** of Marks to be used only after a student has successfully completed the programme:

$$\text{Percentage of Marks} = \text{CGPA} \times 10$$

Illustration for a CGPA of 8.20;

$$\text{Percentage of marks secured } M = 8.20 \times 10 = 82.0 \%$$

Percentage Equivalence of Grade Points (For a 10- Point Scale)	
Grade Point Average	Percentage of Marks /Class
5.00	50
6.00	60
7.00	70
8.00	80
9.00	90
10.00	100

15 Class Designation:

- $\geq 70\%$ (First Class with Distinction) ,
- $\geq 60\%$ and $< 70\%$ (First Class) ,
- $\geq 50\%$ and $< 60\%$ (Second Class)
- $\geq 40\%$ and $< 50\%$ (Pass Class)

16 Internship

The internship is an extended period of work experience undertaken by university/Institute students looking to supplement their degree with professional development. The students are allowed to prepare themselves for the workplace and develop practical skills.

The Internship shall be completed during the period specified in the Scheme of Teaching and Examinations. There will be three internships:

- 1. Inter/Intra Institutional Internship:** (In the case of the students admitted to 1st-year B.E./B.Tech. program) All the students admitted to engineering programs shall have to undergo a mandatory summer internship of 03 weeks during the intervening semester period of the II and III semesters. The internship shall include Inter / Intra Institutional activities (refer to Annexure-IV). CIE shall be carried out during the Internship period/III semester and prescribed marks shall be included in the IV semester grade cards.
- 2. Inter/Intra Institutional Internship: (In case of students admitted under Lateral Entry):** All the students admitted to engineering programs under the lateral entry category shall have to undergo a mandatory internship of 03 weeks during the intervening semester period of the III and IV semesters. The internship shall include Inter / Intra Institutional activities (refer to Annexure-IV). CIE shall be carried out during the Internship period/IV semester and prescribed marks shall be included in the IV semester grade cards.
- 3. Inter /Intra Institutional internship. Innovation/ Societal/ Entrepreneurship-based Internship:**

During the intervening period of IV and V semester the Internship of 04 weeks period shall be carried out in industries /Govt. organization/NGO/MSME. Focus may be given to Rural Internship/Innovative activities and Entrepreneurship (Social/Industrial). CIE shall be carried out during the Internship period/V semester and prescribed marks shall be included in the VI semester grade cards.

Research Internship/Industry Internship of 24 weeks duration: At the beginning of the IV academic year, students can opt for VII semester course work or VII semester Internship depending on the opportunities available for enrolling to either Research Internship or Industry Internship. With reference to this, both VII and VIII semesters shall be in progress simultaneously. Research Internship Industry Internship shall be carried out at Industry / government organizations, non-governmental organizations (NGOs)/ Micro, Small & Medium Enterprises (MSME) /Research and development organizations/Organizations of National or international repute/Institution Research Centers / Innovation and Incubation Centres/Start-ups /entrepreneur cells. The institution shall encourage students to take up (i) interdisciplinary Research Internship or Industry internship and (ii) rural internship, a work- based activity carried out to learn practical experiences in rural areas, for the upliftment of living standards. In case students want to undergo an internship at his/her family business, he/she shall be permitted to provide; a declaration by a parent that is submitted directly to the Principal of the Institution. With the consent of the internal guide and Principal of the Institution, students shall be allowed to carry out the internship at their hometown (within or outside the

state or abroad), provided favourable facilities are available for the internship and the student remains regularly in contact with the internal guide

- 4. University shall not bear any cost involved in carrying out the internship by students.** However, students can receive any financial assistance extended by the organization. University Viva-Voce examination shall be conducted at the end of the internship period. Research Internship /Industry Internship shall be considered as head of passing and shall be considered for the award of the degree. Those who do not complete the internship shall be declared fail and shall have to complete it during subsequent University examinations after stratifying the internship requirements during subsequent semesters.

17 Responsibilities of Department and Guides:

1. The Department/college shall nominate department coordinator /staff member/s to facilitate, guide, and supervise students under internship.
2. The students shall report the progress of the internship to the Guide at regular intervals and seek his/her advice. The Guide shall maintain the progress record/diary of the candidates undergoing internship.
3. After the completion of the Internship, students shall submit a report with a completion certificate to the Head of the Department with the approval of internal Guides.
4. There shall be 100 marks for CIE for Inter/Intra Institutional Internship and Innovation/Societal /Entrepreneurship based Internship. For Research /industry internship 100 marks for CIE and 100 marks for SEE. The minimum requirement of CIE and SEE marks shall be 40% and 35% of the maximum marks respectively. In total, the student has to secure 40% of the course maximum marks i.e., the sum of the CIE and SEE marks prescribed for the course.
5. The internal Guide and one senior faculty shall be the internal examiners for CIE Inter/Intra Institutional Internship and Innovation/Societal /Entrepreneurship based Internship.
6. For Research /Industry Internship, External Guide for the Internship shall be the external examiner for SEE. Examination for internship shall be conducted at the college and the date shall be fixed in consultation with the external Guide. The Examiners shall jointly award the SEE marks.
7. In case, the external Guide expresses his/her inability to conduct the Examination, the Principal /examination Chief Superintendent of the Institute appointed by the University shall appoint a senior faculty of the Department to conduct the Examination along with the internal Guide

18 Technical Seminar

Technical Seminar is one of the heads of passing.

1. Each student has to present the seminar on a specific topic chosen from the relevant field /list provided by the department under the supervision of a faculty coordinator.
2. The Head of the Department/designated coordinator for technical seminar shall make arrangements for the conduct of seminars through a committee of faculty members of the Department. The committee constituted for the purpose of the Head of the Department, shall award the CIE marks for the seminar. The committee shall consist of three senior faculty members of the Department and the senior-most among them is to act as the Chairperson.

19 Mini-Project:

A Mini Project is a laboratory-oriented course that will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications

Based on the ability/abilities of the student/s and recommendations of the mentor, a single disciplinary or a multidisciplinary Mini-project can be assigned to an individual student or a group having not more than 4 students

20 Project Work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single disciplinary or a multidisciplinary Major-project can be assigned to a group having not more than 4 students. The main project work needs to be taken up within the institute/ research laboratory/industry. It is desirable, that the outcome of the project work may be published /patented

21 Minimum CGPA of 5 for award of Degree:

Noncompliance of CGPA $>_5.00$ at the end of the Program

Students, who have completed all the courses of the Program but do not have a CGPA $>_5.00$ at the end of the Program, shall not be eligible for the award of the degree.

In such cases ,

- Students shall be permitted to appear again for SEE in course/s other

than Internship, Technical seminar, Project (Mini and Main), and Laboratories] of any Semester/s without the rejection of CIE marks for any number of times, subject to the provision of the maximum duration of the Program to make up the CGPA equal to or greater than 5.00 for the award of the Degree.

- In case the student earns improved grade/s in all the reappeared course/s, the CGPA shall be calculated considering the improved grade/s. If it is >5.00 , the students shall become eligible for the award of the degree. If $CGPA < 5.00$, the students shall repeat the procedure.
- In case the students earn improved grade/s in some course/s and the same or lesser than the previously earned pass grade/s in the other reappeared course/s, the CGPA shall be calculated considering the improved grade/s and the pass grades earned before the reappearance. If it is > 5.00 , the student shall become eligible for the award of the degree. If $CGPA < 5.00$, the students shall repeat the procedure.
- In case the student earns improved grade/s in some courses and fails in the other reappeared course/s, the CGPA shall be calculated by considering the improved grade/s and the previously earned pass grade/s of the reappeared course/s in which the student has failed. If it is >5.00 , the student shall become eligible for the award of the degree. If $CGPA < 5.00$, the students shall repeat the procedure.
- In case the student fails (i.e., earns F grade) in all the reappeared course/s, pass grade/s of the course/s earned by the students before reappearance shall be retained. In such cases, the students shall repeat the procedure.

The student shall obtain written permission from the Principal to reappear in SEE to make up the CGPA equal to or greater than 5.00.

Noncompliance of Mini-project

The mini-project shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete the mini-project shall be declared fail in that course and shall have to complete the same during subsequent University examinations after satisfying the Mini- project requirements.

Noncompliance of Major-project

The Project Work shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete

the Major-project shall be declared fail in that course and shall have to complete the same during subsequent University examinations after satisfying the Major-project requirements.

Noncompliance of Internship

All the students of B.E./B.Tech. shall have to undergo mandatory internship. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete the internship shall be declared fail in that Course and shall have to complete the same during subsequent University examinations after satisfying the internship requirements.

22 B.E (Honors)

Student shall choose, Online Courses (18 credits or more) from the bouquet of approved online courses by the institution/university.

To subsume the intentions of AICTE, VTU has instituted the award of BE degree with Honours from 2018-19 Batches

22.1 The regulation shall be applicable to the Students

- ✚ Admitted to I semester/I year from the **academic year 2019-20** (i.e.USN-XXX18XXXXX- **REGULAR BATCH**)
- ✚ Admitted to III semester/II year from the **academic year 2020-21** (i.e.USN-XXX19XX4XX- **LATERAL BATCH**)

22.2 Eligibility Criteria for Registration

Every student intending to register for the 'Honours' qualification shall fulfill the following academic requirements:

- ✚ Registration to 'Honours' qualification shall start from **fifth semester** onwards.
- ✚ The Registrants shall have obtained a **grade $\geq D$** in all the courses in the first attempt only, in the semesters until this stage.
- ✚ The Registrants shall have obtained a **CGPA ≥ 8.50** at the end of the fourth semester.
- ✚ The lateral entry Diploma students shall have completed Additional Mathematics I and II during 3rd and 4th semesters in first attempt only.

22.3 Registration Procedure

A student meeting the eligibility criteria specified above and intending to register for the '**Honours** Qualification shall apply in the prescribed form along with a **non refundable registration fee Rs.2000/-** to **confirm** the registration.

22.4 Award of HONOURS Qualification

- ❖ Students shall maintain a **grade $\geq D$** in all the courses of fifth to eight semesters in first attempt only.
- ❖ Students shall choose, online courses **totaling to 18 or more credits** from the bouquet of **approved online courses, by institution/University.**
- ❖ Students failing to maintain a **grade $\geq D$** in all the courses of fifth to eight semesters in first attempt only shall discontinue the attempt to earn additional credits, for Honours degree.

- ❖ Students not having a **GGPA ≥ 8.50** at the end of programme shall not be eligible for the award of Honours even if they have satisfied the additional credits consideration prescribed for Honours degree.
- ❖ Additional credits earned through NPTEL shall not be considered for the calculation of CGPA as well as rank declaration.
- ❖ The Award of the HONOURS degree shall be recommended by the Academic council and approved by the Governing Council of the Institution.

22.5 Course Work

- + Successfully in the remaining semesters, that is, **fifth to eight** for the relevant Degree award, each student registered for the Honours qualification shall have to take up the **coursework** as **notified** by the **university** from **NPTEL**
- + Final score (**Online assignments: 25% + Proctored exam: 75%**) leading to NPTEL **Elite** (60 to 75 %) / **Elite + Silver** (76 to 89 %) / **Elite + Gold** (> 90 %) certificate, within the minimum prescribed duration for the award of Degree.
- + The **University/Institution** shall announce the **BOS approved list of MOOCs** (chosen from **NPTEL/SWAYAM**/other platforms) corresponding to each engineering programme.

THE CREDIT EQUIVALENCE FOR ONLINE NPTEL COURSES SHALL BE DETERMINED BASED ON THE FOLLOWING TABLE.

Assigned Credits	
Online course Duration	Assigned Credits
04 Weeks	1
08 Weeks	2
12 Weeks	3

The Head of the Departments shall submit the list of students who are eligible for the award of Honours degree along with the total credit earned by each student and the corresponding MOOC certificates to the office of Controller of Examination, programme wise, together with the CIE marks of 8th semester.

The list shall be validated by the Faculty Advisor of the students under consideration and endorsed by the Head/Chairperson of the Department.

- a. Those students who cannot/do not submit the certificates on or before the last date prescribed by the institution shall not be considered for the award of "Honours" qualification, irrespective of the number of credits earned by them. However, they shall be awarded only B.E. Degree.

- b. The 'Honours' qualification shall be suffixed to the respective degrees and shown in the Degree certificates as a recognition of higher achievement by the student concerned.
- c. The CGPA earned by the students shall be only on the basis of students' performance in the various semester level examinations conducted by the University/ Autonomous colleges, as the case may be.

23 Activity Points

Apart from technical knowledge and skills, to be successful as professionals, students should have excellent soft skills, leadership qualities and team spirit. They should have entrepreneurial capabilities and societal commitment.

In addition to the regular academic activities, there is a need for the student to develop the personality trait as required by industry and society. In order to meet such requirements AICTE has introduced a mechanism of awarding activity points over and above the academic grades.

This is applicable to all B.E students

- + Admitted to I semester/I year from the **academic year 2018-19**
- + Admitted to III semester/II year from the **academic year 2019-20**
- + Re-admitted / rejoined to III semester/II year from the **academic year 2019-20.**
- + Rejoining to V semester from academic **year 2020-21.**

Sl. No.	Student Category	Activity points prescribed by AICTE
1	Day College Regular student admitted to the 4 years Degree programme	100
2	Student entering 4 years Degree programme through lateral entry	75
3	Students transferred from other Universities to fifth semester	50

1. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.
2. The activities can be can be spread over the years (duration of the programme), anytime during the semester weekends and holidays, as per the interest and convenience of the student from the year of entry to the

programme. However, minimum hours specified must be satisfied.

3. Activity Points (non-credit) have no effect on SGPA/ CGPA and shall not be considered for vertical progression.
4. In case students fail to earn the prescribed Activity Points, eighth semester Grade Card shall be issued only after earning the required Activity Points. Students shall be admitted for the award of degree only after the release of the Eighth Semester Grade Card.
5. The AICTE Activity Programme, a non-credit programme, can be taken up any time during the semester weekends and holidays. These activities can be spread over the years, as per Convenience of the student. However, minimum hours specified must be satisfied.

AICTE Activity Point Programme (Activity Summary sheet)					
Following suggestive activities may be carried out by students in teams as per their choice					
Sl. No.	Activity Head	Minimum Duration		Performance appraisal/ Maximum points/ activity	Evaluated by
		Weeks	Hours		
1	Helping local schools to achieve good result and enhance their enrolment in Higher/ technical/ Vocational Education.	2	80-90	20	NSS/youth Red Cross Co-ordinators /Chairperson- CICC (College Internal Complaints Committee) / SAGY (sansad Adarsh Gram Yojana, Govt. of India) of the institute / Mentor
2	Preparing an actionable business proposal for enhancing the village Income.	2	80-90	20	
3	Developing Sustainable Water Management system	2	80-90	20	
4	Tourism Promotion Innovative Approaches.	2	80-90	20	
5	Promotion of Appropriate Technologies.	2	80-90	20	
6	Reduction in Energy Consumption.	2	80-90	20	
7	To Skill rural population.	2	80-90	20	
8	Facilitating 100% Digitized money transactions.	2	80-90	20	

9	Setting of the information imparting club for women leading to contribution in social and economic issues.	2	80-90	20	
10	Developing and managing efficient garbage disposable system.	2	80-90	20	
11	To assist the marketing of rural produce.	2	80-90	20	
12	Food preservation/packaging	2	80-90	20	
13	Automation of local activities.	2	80-90	20	
14	Spreading public awareness under rural outreach programmes.	2	80-90	20	
15	Contribution to any national level initiative of Government of India. For e.g. Digital India/ Skill India/ Swachh Bharat Internship etc.,	2	80-90	20	

6. Submission of Activity Points: The consolidated report of activity points earned by the students shall be sent to the University.

24 B.E./B.Tech. with Minor degree

A student shall be declared to have completed the Program of B.E./ B.Tech. Degree and shall be eligible to get undergraduate B.E./B.Tech., degree with minors, provided.

- ✚ The student has undergone the stipulated Course work of all the semesters under the same Scheme of Teaching and Examinations and has earned the prescribed number of credits, i.e. 160 credits for I semester admitted student and 120 for III semester admitted student
- ✚ Has earned additional 18 or more credits through a University- approved courses list submitted by the board of studies. For Guidelines refer to Annexure-VI

25 Award of Degree for an Extraordinary Student:

The University through college can offer a fast-track degree for an extraordinary student. The same is done by offering courses of his / her choice to fulfill the requirement of the program in three and half years. However, the degree shall be awarded on completion of 04 years. However, the course completion letter may be issued jointly by University and Institute immediately after completion of the program, notwithstanding the minimum duration. Aspirant students have to register with University through the Principal of the college **at the 5th-semester** level, with the prescribed registration fee as fixed by the University from time to time. A special provision to registering for more credits other than regular semester credits shall be made only after registration.

The extraordinary student is one with a CGPA ≥ 9 in 1st, 2nd, 3rd, and 4th semesters and maintains the same in all the semesters. Otherwise, his/her registration will stand canceled automatically.

26 OTHER ACADEMIC MATTERS

26.1 CHOICE BASED CREDIT SYSTEM

1. Choice Based Credit system for academic Programmes is of considerable benefit to the students for customizing their programmes of direct interest of them, developing their individual capabilities and talents and preparing them for exciting careers ahead in the 21st century.
2. The students are provided with Easy access to the scheme of instruction, syllabi, credit structure of programmes and the courses being conducted (either in print or in electronic form) so as to assist them in course work planning.
3. (c) Institutionalizing the conduct of course work by adopting a centralised time table for all the programmes in the college, with a view to assist the students in customizing their programmes and also optimizing the use of physical facilities.
4. (d) Establishing a dynamic faculty advisory system where 10-20 students are assigned to an Advisor for guiding them in planning/ implementing their course work in a flexible and effective manner and also monitoring them.

26.2 TIME SCHEDULES

- i. **Academic Schedules:** To specify various time schedules, Academic Calendar is prepared to assist the students and also the faculty members. These include, dates assigned for registration of courses, dropping of courses and withdrawal from courses. This enables the students to be well prepared, minimize their chances of failure in CIE and/or SEE and take full advantage of the flexibility provided by the credit system.

- ii. **Registration of Courses:** Each student shall have to register for courses at the beginning of a semester. The permissible Course load to be either average number of credits in the 1st Semester of a programme or to be within the limits of minimum and maximum credits prescribed in each later semester. A period of 2-3 days is specifically assigned for this event in the Academic Calendar for the students to seek faculty advice, discuss with the course instructors and complete the formalities.
- iii. **Dropping of Courses:** Based on the review conducted, of students' performance in CIE by the Faculty Advisors concerned, a specific time period is fixed, e.g in the middle of a semester, to mainly assist the students having poor performance to be facilitated to drop the identified course(s) (up to the minimum credits specified for the semester) without being mentioned in the Grade Card. Such Courses to be re- registered by these students and taken up for study at a later semester in the programme.
- iv. **Withdrawal from Courses:** With the help of review by the faculty advisor, regarding student performance in CIE, course(s) that need to be withdrawn can be identified (up to the minimum credits specified for the semester) with mention in the Grade Card (grade 'W'). Such Courses to be re-registered by these students and taken up for study at a later semester in the programme

26.3 TEMPORARY WITHDRAWAL:

A student shall be permitted to withdraw temporarily from College on grounds like, prolonged illness, grave calamity in the family or any other serious happening. The withdrawal shall be for periods which are integral multiples of a semester, provided that:

1. The student applies to the College within at least 6 weeks of the commencement of the semester or from the date he/she last attended the classes, whichever is later, stating fully the reasons for such a withdrawal, together supporting documents and endorsements of his/her parents/guardians.
2. The College is satisfied of the genuineness of the case and that, even by taking into account the expected period of withdrawal, the student has the possibility to complete the prescribed programme requirements within the time limits specified by the University.
3. The student does not have any dues or demands at the College/University including tuition and other fees as well as library material.
4. A student availing of temporary withdrawal from the College under the above provision shall be required to pay such fees and /or charges as may be fixed by the college until such time as his/her name appears on the students' Roll List. However, it may be noted that the fees/charges once paid shall not be refunded.

5. Normally, a student will be entitled to avail of the temporary withdrawal facility only once during his/her studentship of the programme at the College. However, any other concession for the student shall have to be approved by the Academic Council of the College.

26.4 TERMINATION FROM THE PROGRAMME:

A student shall be required to withdraw from the programme and leave the College on the following grounds:

- + Absence from classes for more than six weeks at a time in a semester without leave of absence being granted by the competent Authority.
- + Failure to meet the standards of discipline as prescribed by the College from time to time

27 STUDENTS' FEEDBACK

- a) Regular feedback is obtained from the students on their course work and various academic activities conducted under the credit system. For this purpose, a suitable feedback form is devised by the College and the feedback is obtained from the students in confidence regularly. A Report on the Feedback is received and proper action is taken on the Report.
- b) The feedback received from the students is discussed at various levels of decision making at the College and the changes/improvements, if any, suggested is given due consideration for implementation at the College.

28 RECOMMENDATIONS FOR DEGREE AWARD

- (a) College forwards its recommendations to the University in respect of students qualifying for UG/UG (Hon's)/Research Degree Awards based on their success in the examinations/adjudication of theses as the case may be after receiving approval from the Authorities/Bodies of the College concerned.
- (b) College also ensures that each such student in (a) has fulfilled all the requirements for the Degree Award.
- (c) Only those students recommend for the Degree Award shall be entitled to receive the relevant Provisional Certificates /Transcripts from the College at this stage.

(d)

29 GRADUATION CEREMONY

29.1 Award of Prizes, Medals, and Ranks

- a) College has its own annual Graduation ceremony for the award of degrees (Provisional Certificates) to the students completing the prescribed academic and other requirements in each case as per the lists recommended to the University, in prior consultation with the University and by following the provisions in the University Statutes.
- b) College has instituted Prizes and Awards to meritorious students, which are being given away annually at the Graduation ceremony, to encourage the students to strive for excellence in their academic activities.
- c) Ranks are awarded to the students based on the merit as determined by CGPA. If two or more students get the same CGPA, the tie is resolved by considering the number of times a student has obtained higher SGPA. If it is not resolved even at this stage, the number of times a student has obtained higher grades is taken into account to decide the order of the rank.
- d) For award of rank in a specialization, a minimum of 10 students should have appeared in the VIII semester examination.
- e) The total number of ranks awarded shall be 10% of the total number of students appeared in VIII semester, subjected to a maximum of 10 ranks in a specialization.

Illustration:

- + If 1228 students appeared for the VIII semester in Electronics and Communication Engineering Program, the number of ranks to be awarded for Electronics and Communication Engineering shall be 10.
- + If 90 students appeared for the VIII semester in Biomedical Engineering, the number of ranks to be awarded for Biomedical Engineering will be 09.
- + In case of a fractional number of ranks, it is rounded to a higher integer only when the first decimal place is greater than or equal to 5.

29.2 FOR AWARD OF RANK

1. In a specialization of B.E, the CGPA secured by the students from III to VIII semester is considered.
2. The additional credits earned for the award of Honours / Minors degree shall not have any bearing for the Rank declaration.
3. A student shall be eligible for a rank at the time of award of the degree of Bachelor of Engineering/ Technology, provided that the student,

- a. **(i)** Has passed all the Courses of I to VIII semester in the first attempt only in case of Candidates admitted to I year.
 - (ii)** Has passed all the Courses **(including bridge courses)** of III to VIII semester in the first attempt only in case of Candidates admitted under lateral entry scheme.
 - b. Is not a repeater in any semester because of rejection of result of a semester/ shortage of attendance /**temporarily discontinued and rejoined/readmitted etc.**
 - c. Has completed all the Courses/semesters of the same Scheme of Teaching and Examinations without any break/discontinuity.
 - d. Has completed all the semesters (I to VIII for regular/III to VIII for lateral entry) in VTU constituent college or in any VTU affiliated non-autonomous college.
 - e. Has not been transferred from any autonomous institution affiliated to VTU or from any other University.
4. The total number of ranks awarded shall be 10% of the total number of students who appeared in the VIII semester subject to a maximum of 10 ranks in a specialization
 5. For an award of ranks in a specialization, a minimum of 10 students should have appeared in the VIII semester examination
 6. A student is eligible for a rank at the time of award of degree, provided he/she has Passed all the courses starting from I semester, in first attempt only (starting from III semester for lateral entry)
 7. completed all prescribed mandatory noncredit courses
 8. Not repeated any course in any semester due to rejection of result or shortage of attendance etc.
 9. Completed all the semesters without any break/discontinuity.
 10. CGPA \geq 6.75 (equivalent to first class or above)

30 DISCIPLINARY MEASURES

30.1 GENERAL MEASURES

- (a) The students will not assist or even associate himself / herself in any activities that is likely to disturb the peace and smooth functioning of the institution.
- (b) The tuition fees shall be paid by the student before or at the time of admission/ registration in every academic year.
- (c) The student shall follow all the rules and regulations laid down by the college authorities/Management from time to time.

- (d) Student will have to maintain regular attendance. In case of attendance less than 75% the student will not be allowed for the ensuing CIE tests. Cumulatively he should have over 85% attendance as mentioned earlier, to be eligible for the semester end exams. In case of any absence, they should have to provide appropriate proof (medical Certificate/letter from parents etc.) and information, within three days of the absence from the department to the Dean-Students affairs.
- (e) In case of planning to participate in any curricular (including paper presentation/ competition), co-curricular and extra-curricular activities, prior permission has to be sought through proper channel. Further immediately within three days, on return from the event, should also provide the necessary proof to the counselor, the department, and the teacher concerned. Otherwise they will not be considered for any attendance benefit and the certificate will not be considered for credits for the paper on Innovation and Social Skills.

30.2 ANTI-RAGGING RULES

Ragging in any form is totally prohibited in the campus. Ragging menace is a criminal offence & such of the students who are involved in such obnoxious practice are liable to be rusticated from the college. Severe action will be initiated against the students who are indulging in the ragging. The preventive measures have been taken to tackle ragging. An Anti - Ragging Committee and anti-ragging squads have been formed to prevent ragging. A student seeking admission to the college and hostel forming a part of the institution shall have to submit affidavits duly signed by him / her and also from his/her parents/ guardians in the prescribed format as per the regulations.

30.3 DRESS CODE

The following dress code must be adhered to by the students at all times within the campus premises:

For boys:

- No shorts
- No headgears (Except Pagdi for Sikhs)
- No overly torn jeans
- No chappals

For girls:

- No shorts
- No short skirts/dresses
- No short tops

- No overly torn jeans
- No strapless tops
- No burkhas
- No headgears/headscarves

Both Boys and Girls must dress in smart casuals. The dress code must be strictly adhered to. The college reserves the right to restrict the entry of students not following the dress code.

30.4 MOBILE PHONE:

- The usage of mobile phones by the students in the instructional areas is banned. However, these can be used in open areas (lawn and open seating areas).
- If a student is found conversing on mobile phone in any of the academic areas/ buildings, the mobile will be confiscated and fine will be levied for violating the rule.

30.5 SECURITY ISSUES:

- + Wearing identity card in a way that it is clearly visible is compulsory inside the campus for security reasons. Entry into the campus without valid identity card is strictly prohibited. The staff and the security personnel have the authority to check the ID cards
- + Motorcyclists must remove their helmets before entering the College Campus
- + College security staff has the right to ask individuals to identify themselves. Action shall be initiated against those persons who refuse to identify themselves.
- + The students are advised to park their vehicles in the designated parking areas.

Note:

In case of violation of college/hostel norms, rules and regulations, a student may be prevented from continuing in that semester and / or appearing for the semester examination depending on the outcome of the Disciplinary Action Committee report. Ignorance of any rules does not condone any misbehavior.

31 VARIOUS COMMITTEES AT NEW HORIZON COLLEGE OF ENGINEERING

Sl.No	COMMITTEES	IN-CHARGES	DESIGNATION
1	Accreditation Committee	Dr Sanjeev Sharma	Dean QASDC
2	Admission Committee	Mr. H N Suryaprakash,	Registrar
		Ms. Aruna	Director – Admissions & Branding
3	Alumni Committee	Dr. Anitha S. Rai	Dean- Library & Alumni Relations
4	Anti- Ragging Committee	Mr. H N Suryaprakash	Registrar
5	College Internal Complaints Committee (CICC)	Dr. R.J. Anandhi	Dean Academics &
			Head -Information Science & Engineering
6	Co- Curricular Committee	Dr. Piruthviraj	Associate Professor, Electronics & Communication Engineering
7	College Internal Grievance Redressal Committee	Ms. Manjula V.	Director- HR
8	Community Development Center (Public Welfare Committee)	Mr. H N Suryaprakash	Registrar
		Ms. Aruna	Director- Admissions & Branding
9	Counseling Committee	Dr. Reena Jain	Chief Counsellor
10	Cultural Committee	Dr. Anitha S. Rai	Dean- Library & Alumni Relations
11	Curriculum Development Committee	Dr. Anandhi R J	Dean- Academics
12	Disciplinary Committee	Mr. H N Suryaprakash	Registrar
13	Energy Conversion Audit Committee	Dr. Mahesh M	Professor & Head- Electrical & Electronics Engineering
		Mr. Karthik	Estate Manager
14	Equal Opportunities Cell	Dr. Anusuya Devi V S	Professor & Head
			Department of Chemistry
15	Examination Committee	Dr. Vijilius Helena Raj	Controller of Examinations
16	Finance Committee	Mrs. Malathi Madhusudan	Sr. Executive Director
			Accounts & Finance
17	Girls Hostel Development & Welfare Committee	Ms. Aruna	Director – Admissions
18	Hostel (Boys) Development & Welfare Committee	Mr. H N Suryaprakash	Registrar
19	Infrastructure Development Committee	Dr. P S Niranjan	Professor & Head- Civil Engineering
		Mr. Rao	Project Manager
20		Prof. Gurucharan Singh	Executive Director

	In-Plant Training/ Industrial/ Career Guidance/ Placement Committee		Department of HRD(CR,L&D &P)
21	Instrumentation Cell	Dr. Aravinda K	Professor & Head
			Electronics & Communication Engineering
22	Internal Quality Assurance Cell	Dr Rajalakshmi	Professor & Head- Computer Science Engineering
23	Library Committee	Dr. Anitha S. Rai	Dean- Library & Alumni Relations
24	NCC Committee	Mr. H N Suryaprakash	Registrar
		Mr. Pavan Kadole	Professor- Mechanical Engineering
25	News Letter Committee	Dr. K G Madhwaraj	Professor, Department of MCA
26	NSS Committee	Dr. Anitha S. Rai	Dean- Library & Alumni Relations
		Mr. Hanamantha Y	Sr. Assistant Professor Mechanical Engineering
27	Physical Education & Sports Committee	Dr. Mohan Kumar Naik	Professor & SRO Electronics & Communication Engineering
		Mr. Vinay	Physical Education Director
28	Professional Societies	Dr. Siddesha G K	Head- Research & Development
29	Public Relations & Marketing Committee	Ms. Aruna	Director- Admissions & Branding
		Mr. Harish Prabhakaran	Head- Digital Marketing
30	Purchase Committee	Mrs. Malathi Madhusudan	Sr. Executive Director- Accounts & Finance
		Mr. H N Suryaprakash	Registrar
31	Recruitment Cell	Ms. Manjula V.	Director- HR
32	Research & Development Committee	Dr. Siddesha G K	Head- Research & Development
33	SC/ST Welfare Cell	Mr. H N Suryaprakash	Registrar
34	Software / Hardware Training Committee	Dr. B. Rajalakshmi	Professor & Head
			Computer Science and Engineering
35	Staff Welfare Committee	Ms. Manjula V.	Director- HR
36	Student Mentoring Committee	Dr. Mohan Kumar Naik	Professor & SRO
			Electronics & Communication Engineering
37	Students Grievances Redressal Committee	Mr. H N Suryaprakash	Registrar
38	Universal Human Values Committee	Dr. Anusuya Devi V S	Professor & Head
			Department of Chemistry
39	Value Added Programs Committee	Dr. Niranjana P S	Professor & HoD- Civil Engineering

40	Women Empowerment Committee	Dr. R.J. Anandhi	Professor & Head – ISE
			Information Science & Engineering

32 COUNSELING CENTER

New Horizon College of Engineering is very pleased to extend the services of professional counselors at their Counseling Center for the student community. The youth of today are challenged by many stresses from within their own home and from external sources. There may be issues related to personality, being unable to communicate with peers and others effectively, low self esteem, poor self confidence, in-ability to concentrate, fear of exams, anxiety about one's ability to be a successful student of engineering, confusion about the future and career, stress related to performance in the college, time management, may be health related issues and many more.

“Where can you go to get some relief from these stresses and make sense of what is happening to you and how do you cope? Is there somebody to listen to you especially when you are far away from home and loved ones? These are the questions that may leave you so very disturbed, and under tension that it may impact your scores in academics, your concentration and your enjoyment of the best years of your life, that is, college life”. The place to go is the Counseling Center and seeks the help of the Counselors who are there to enable you to understand, to build capacities to overcome and to develop skills to cope with the situations that you may find stressful. The keywords of counseling are compassion, building trust, confidentiality and being non- judgmental. The counseling process is usually one-on-one and these are experienced counselors who can empower you to fulfill your true potential during your tenure in New Horizon College of Engineering.

New Horizon College of Engineering will be a platform for learning, exploring, developing and growing into positive and happy professionals who can look forward for a fruitful career. Counselors can extend a helpful hand to you in this journey. Students of New Horizon College of Engineering can communicate to the counselors through the email ID nhce_counselor@newhorizonindia.edu

:: NOTE ::

These rules and regulations may be altered/changed from time to time by the academic council. Failure to read and understand the rules is not an excuse.

WHO'S WHO

Name	Designation
Dr. Manjunatha	Principal - NHCE

Ms. Malathi Madhusudan	Senior Executive Director - Accounts & Finance
Prof. Gurucharan Singh	Executive Director - HRD
Ms. Manjula V	Director - Human Resources
Ms. Aruna	Director - Admissions
Mr. H N Suryaprakash	Registrar
Dr. R.J. Anandhi	Dean Academics & HoD - Information Science Engineering
Dr. Siddesh K	Head Research & Development
Dr. Vijilius Helena Raj	Controller of Examinations & Professor-Mathematics
Dr. Sanjeev Sharma	Dean QASDC
Dr. B Rajalakshmi	HoD - Computer Science Engineering
Dr. Shridhar Kurse	HoD – Mechanical Engineering
Dr. P S Niranjan	HoD - Civil Engineering
Dr. Mahesh M	HoD - Electrical & Electronics Engineering
Dr. Aravinda K	HoD - Electronics & Communication Engineering
Dr. Sheelan Misra	HoD - Master of Business Administration
Dr. Asha V	HoD - Master of Computer Applications
Dr. Revathi V	HoD - Physics
Dr. Anusuya Devi V S	HoD - Chemistry
Dr. G Srinivasa	HoD - Mathematics
Dr. Anitha S Rai	Dean - Library & Alumni Relation
Dr. Sowmya Narayanan	Head - Life Skills & Life Long Learning Centre
Ms. Jayakumari D	Head Corporate Affairs
Mr. Harish Prabakaran	Head Branding and Marketting
Mr. Rao	Project Manager
Mr. Karthik	Estate Manager
Mr. Umesh	Purchase Officer
Mr. Cariappa I A	Chief Security Officer
Mr. Krishna Prakash	Head Systems & Networks

BLOCK	BLOCK NAME	DEPARTMENTS /FACILITIES
A	Netaji Subhas Chandra Bose Block	Computer Science & Engg. – I Floor
		Electronics & Communication Engg. – II Floor
		Dept. of Management Studies.- III Floor
		Artificial Intelligence & Machine Learning – Ground Floor
		Falconry Seminar Hall – I Floor
		Seminar Hall – III Floor
		Entrepreneur Development Cell – IV Floor
		Reprographic Centre – Lower Level
B	Sardar Vallabhai Patel Block	Automobile Engg. – I Floor
		Civil Engg. – I Floor
		Mechanical Engg. – I Floor
		Electrical & Electronics Engg. – II Floor
		Dept. of MCA – III Floor
C	Chhatrapati Shivaji Block	Basic Science & Humanities Dept. – III & IV Floor
		Computer Engineering – II Floor
		Information Science & Engg. – V Floor
		Principal Office – Ground Floor
		Administrative Block – Ground Floor
		Admission Block - Ground Floor
		H.R. Department – Ground Floor
		Dept. of HRD - I Floor
		Accounts Dept. – Ground Floor
		Examination Section – Ground Floor
Parking - Lower Level 1&2		
D	Shahid Bhagat Singh	Office of the Controller of Examinations - Lower Level & Ground Floor
		Dean Academics, Dean R&D, QASDC, Marketing & Branding- Ground Floor
		Boys Hostel – I to IV Floor
		Gymnasium- Lower Level
		Nirvana-Recreational Centre- Lower Level
E	Major Sandeep Unnikrishnan Ashoka Chakra Memorial Block	Library & Information Center – Lower Level & Ground Floor
		New Horizon Auditorium – I Floor
		New Horizon Indoor Stadium – III Floor
		Clinic – Ground Floor
F	Swami vivekananda Block	Books & Stationary Shop – Ground Floor
		Mess – Lower Level
G	Jhansi Ki Rani Block	Boys Hostel
H	Rani Chennama Block	Girls Hostel
		Dining Area - Ground Floor

GUIDELINES AND TEMPLATE FOR THE PREPARATION OF MINI PROJECT /PROJECT REPORT

(B.E/M.B.A/M.C.A/M.Tech)

INTRODUCTION

This document intends to provide guidelines to both UG and PG students in the preparation of their mini project reports. In general, the mini project report should document in an organized and scholarly fashion an account of original work of the candidate/s leading to the application of knowledge acquired during the course of their current and past semesters.

NUMBER OF COPIES TO BE SUBMITTED

Students should submit three copies to the concerned Departments on or before the stipulated date. Upon verification and evaluation, the Head of the Department shall send:

- ✚ A Soft copy to the Library
- ✚ A hard copy to the supervisor and
- ✚ A hard copy to the student concerned.

SIZE OF PROJECT REPORT

The size of project report should not exceed 50 pages of typed matter.

ORDER OF CONTENTS

The sequence in which the mini project report material should be arranged and bound is as follows:

- ✚ Cover Page &Title Page
- ✚ Bonafide Certificate
- ✚ Plagiarism Certificate
- ✚ Abstract
- ✚ Acknowledgement
- ✚ Table of Contents
- ✚ List of Tables

- + List of Figures
- + List of Symbols, Abbreviations and Nomenclature
- + Chapters
- + Appendices
- + References

The table and figures shall be introduced in the appropriate places.

PAGE DIMENSION AND BINDING SPECIFICATIONS:

Standard A4 size paper must be used for preparing the copies. The Report should have the following page margins:

Top edge : 25 to 30 mm

Bottom edge : 25 to 30 mm

Left side : 25 to 30 mm

Right side : 20 to 25 mm

The dimension of the project report should be in A4 size. The project report should be tape-bounded. The cover should be printed in black letters.

FONT TYPE AND SIZE

Calibri Body (font size 12) is to be used for the regular text. Calibri Heading of suitable font size is to be used for the heading

FRONT PAGE FORMAT for MINI PROJECT /PROJECT REPORT



**NEW HORIZON
COLLEGE OF ENGINEERING**

Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA
New Horizon Knowledge Park, Ring Road, Bellandur Post, Bengaluru 560 103



(Template of Cover Page & Title Page)

TITLE

<1.5line
spacing>

A MINI PROJECT / PROJECT REPORT

Submitted by

<Italic>

NAME OF THE STUDENT(S)

***In partial fulfilment for the award of the degree
of***

<1.5line
spacing><Italic>

NAME OF THE DEGREE

IN

BRANCH OF STUDY

GUIDELINES FOR EVALUATION OF PROJECT PHASE-1

All the projects and mini-projects in CSE/ISE/MCA departments are to be carried out as SOLO projects (Only one student per project)

Projects and mini-projects in departments other than CSE/ISE/MCA can have a minimum of one student and a maximum of four students, left to the discretion of the departments

Project Phase-1 may broadly consist of the following activities:

- + Problem Statement/Project Title
- + Background work/Literature survey as required
- + Detailed descriptions of the various modules or components of the project
- + Proposed timeline for completion of the project
- + Project Design

Project Phase-1 Report:

- + Phase-1 report of at least 25 pages must be submitted
- + A detailed report on the activities carried out in phase-1 along with the plan of action for the completion of the project should be included
- + Departments can decide on the template for the phase-1 report

CIE:

- + All the activities carried out during project phase-1 over the course of the semester must be evaluated as a part of CIE
- + CIE must have a presentation and a phase-1 report evaluation

SEE

- + The SEE will consist of a write-up and a detailed viva-voce on the status of the project and the proposed plan for its completion.

PROJECT REPORT GUIDELINES

Project reports should be typed neatly only on one side of the paper with 1.5 or double line spacing on an A4 size bond paper (210 x 297 mm). The margins should be: Left – 1.25", Right – 1", Top and Bottom – 0.75".

The total number of reports to be prepared are:

- + One copy to the department
- + One copy to the concerned guide(s)
- + Two copies to the sponsoring agency
- + One copy to the candidate.

Soft Copy of the Report

Student should submit the soft copy of the entire project report in .pdf format to the respective department. Before taking the final printout, the approval of the concerned guide(s) is mandatory and suggested corrections, if any, must be incorporated.

Every copy of the report must contain:

- + Inner title page (White)
- + Outer title page with a plastic cover
- + Certificate in the format enclosed both from the college and the organization where the project is carried out.

Plagiarism-check certificate from NHCE library

An abstract (synopsis) not exceeding 100 words, indicating salient features of the work. (NB: four copies of the abstract are to be submitted to the Department on the date of submission separately)

The organization of the report should be as follows

- + Inner title page Abstract or Synopsis Acknowledgments Table of Contents
- + List of table & figures (optional) Usually numbered in roman
- + Chapters (to be numbered in Arabic) containing Introduction-, which usually specifies the scope of work and its importance and relation to previous work and the present developments, Main body of the report divided appropriately into chapters, sections and subsections.
- + The chapters, sections and subsections may be numbered in the decimal form for e.g. Chapter 2, sections as 2.1, 2.2 etc., and subsections as 2.2.3, 2.2.4 etc.

- ✚ The chapter must be left or right justified (font size 16). Followed by the title of chapter centered (font size 18), section/subsection numbers along with their headings must be left justified with section number and its heading in font size 16 and subsection and its heading in font size 14. The body or the text of the report should have font size 12.

Font Style to be followed: **Calibri**

The figures and tables must be numbered chapter wise for e.g.: Fig. 2.1 Block diagram of a serial binary adder, Table 3.1 Primitive flow table, etc.

The last chapter should contain the summary of the work carried, contributions if any, their utility along with the scope for further work. Reference or Bibliography: The references should be numbered serially in the order of their occurrence in the text and their numbers should be indicated within square brackets for e.g. [3]. The section on references should list them in serial order in the following format.

For textbooks – A.V. Oppenheim and R.W. Schafer, Digital Signal Processing, Englewood, N.J., Prentice Hall, 3 Edition, 1975.

For papers – Devid, Insulation design to combat pollution problem, Proc of IEEE, PAS, Vol 71, Aug 1981, pp 1901-1907. Only SI units are to be used in the report. Important equations must be numbered in decimal form for e.g. $V = IZ$ (3.2)

All equation numbers should be right justified.

The project report should be brief and include descriptions of work carried out by others only to the minimum extent necessary. Verbatim reproduction of material available elsewhere should be strictly avoided. Where short excerpts from published work are desired to be included, they should be within quotation marks appropriately referenced.

Proper attention is to be paid not only to the technical contents but also to the organization of the report and clarity of the expression. Due care should be taken to avoid spelling and typing errors. The student should note that report-write-up forms the important component in the overall evaluation of the project

Hardware projects must include: the component layout, complete circuit with the component list containing the name of the component, numbers used, etc. and the main component data sheets as Appendix. At the time of report submissions, the students must hand over a copy of these details to the project coordinator and see that they are entered in proper registers maintained in the department.

Software projects must include a virus free disc, containing the software developed by them along with the read me file. Read me file should contain the details of the variables used, salient features of the software and procedure of

using them: compiling procedure, details of the computer hardware/software requirements to run the same, etc. If the developed software uses any public domain software downloaded from some site, then the address of the site along with the module name etc. must be included on a separate sheet. It must be properly acknowledged in the acknowledgments. Sponsored Projects must also satisfy the above requirements along with statement of accounts; bills for the same duly attested by the concerned guides to process further, they must also produce NOC from the concerned guide before taking the internal viva examination.

The reports submitted to the department/guide(s) must be hard bounded, with a plastic covering. Separator sheets, used if any, between chapters, should be of thin paper.

Format of the College-Certificate

NAME OF THE INSTITUTION

Address with pin code

Department of

CERTIFICATE

Certified that the project work entitledcarried out by

Mr./Ms.....USN....., a bonafide student ofin partial

fulfillment for the award of Bachelor of Engineering / Bachelor of Technology in

..... of the Visveswaraiah Technological University, Belgaum

during the year It is certified that all corrections/suggestions indicated for

Internal Assessment have been incorporated in the Report deposited in the departmental library.

Name & Signature of the Guide Name Signature of the HOD Signature of the Principal

External Viva

Name of the examiners Signature with date

1.

2.

Format of the certificate issued at the organization where the project was carried. (On a separate sheet, If applicable)

NAME OF THE INDUSTRY / ORGANIZATION
Address with pin code

CERTIFICATE

Certified that the project work entitled
carried out by Mr./Ms USN..... a bonafied student
of.....in partial fulfillment for the award of
Bachelor of Engineering / Bachelor of Technology in..... of the
Visveswaraiah Technological University, Belgaum during the year..... It is certified that,
he/she has completed the project satisfactorily.

Name & Signature of the Guide Name & Signature of the HOD Organization:

COLOUR OF THE OUTER COVER/FRONT PAGE OF UG DISSERTATION / PROJECT

Sl.No	UG course	Color of the outer cover/front page of the report
1	<ul style="list-style-type: none"> • Electronics & Communication Engineering • Electrical & Electronics Engineering 	PURPLE
2	<ul style="list-style-type: none"> • Computer Science & Engineering • Information Science & Engineering 	CREAM
3	<ul style="list-style-type: none"> • Mechanical Engineering • Automobile Engineering 	SKY BLUE
4	<ul style="list-style-type: none"> • Civil Engineering 	GREY
5	<ul style="list-style-type: none"> • Artificial Intelligence & Machine Learning • Computer Engineering 	COFFEE BROWN
6	<ul style="list-style-type: none"> • Master of business administration 	ROYAL BLUE
7	<ul style="list-style-type: none"> • Master of Computer application 	GREEN
8	<ul style="list-style-type: none"> • Master of Technology(all branches) 	SILVER

Team Size

Main Project

B.E Main Projects can have a minimum of ONE student, and a maximum of FOUR students working on a project.

Mini Project

Must be INDIVIDUAL projects and NOT group projects.