



**NEW HORIZON
COLLEGE OF ENGINEERING**

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

ACADEMIC RULES & REGULATIONS

REGULATIONS GOVERNING

THE DEGREE OF

MASTER OF COMPUTER APPLICATIONS (MCA)

Under Outcome Based Education (OBE)

AND

Choice Based Credit System (CBCS) Scheme

Effective from academic year 2022 -23



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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 the IT industry through their involvement in the design of 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**



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DEPARTMENT OF MCA

VISION

To emerge as a department of eminence in the field of Computer Applications in serving the Information Technology 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 aspects of the learning while inculcating a culture of research, innovation and practical applications amongst faculty and students.
- To encourage long-term interactions between the department and the IT Industry through rich 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 services of the highest quality both curricular and co-curricular, so that our students can integrate their skills and serve the industry and society equally well at the global level.

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Definitions of Keywords

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of MCA Programme:

- (1) Program:** Is an educational program in a particular stream/ branch of Engineering/branch of specialization leading to award of Degree. It involves events/activities, comprising of lectures/ tutorials/ laboratory work/ field work, outreach activities/ project work/ vocational training/ viva/ seminars/ Internship/ assignments/ presentations/ self- study etc., or a combination of some of these.
- (2) Branch:** Means specialization or discipline of MCA.
- (3) Semester:** Refers to one of the two sessions of an academic year (vide: serial number 4), each session being of sixteen weeks duration (with working days greater than or equal to ninety).The odd semester may be scheduled from August and even semester from February of the year.
- (4) Academic Year:** Refers to the sessions of two consecutive semesters (odd followed by an even) including periods of vacation.
- (5) Course:** Refers to usually referred to as 'papers' and is a component of a program. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ outreach activities/project work/ vocational training/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc., or a combination of some of these.
- (6) Credit:** Refers to a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical courses/ tutorials/ fieldwork per week etc.
- (7) Audit Courses:** Means knowledge/ skill enhancing courses without the benefit of a grade or credit for a course.
- (8) Choice Based Credit System (CBCS):** Refers to customizing the course work, through Core, Elective and Soft Skill courses, to provide necessary support for the students to achieve their goals.
- (9) Course Registration:** Refers to formal registration for the courses of a semester (credits) by every student under the supervision of a Faculty Advisor (also called Mentor,

Counselor etc.) in each Semester for the Institution to maintain proper record.

(10) Course Evaluation: Means Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluations prescribed for each course. CIE and SEE to carry 50 % and 50 % respectively, to enable each course to be evaluated for 100 marks, irrespective of its credits.

(11) Continuous Internal Evaluation (CIE): Refers to evaluation of students' achievement in the learning process. CIE shall be by the Course Instructor and includes tests, homework, problem solving, group discussion, quiz, mini-project and seminar throughout the semester, with weightage for the different components being fixed at the university level.

(12) Semester End Examinations (SEE): Refers to examination conducted at the university level covering the entire course syllabus. For this purpose, syllabi to be modularized and SEE questions to be set from each module, with a choice confined to the concerned module only. SEE is also termed as university examination.

(13) First Attempt: Refers to a student who has completed all formalities and has become eligible to attend the SEE and has attended at least one head of passing, such attempt shall be considered as first attempt.

(14) Credit Based System (CBS): Refers to quantification of course work, after a student completes teaching - learning process, followed by passing in both CIE and SEE. Under CBS, the requirement for awarding degree is prescribed in terms of total number of credits to be earned by the students.

(15) Credit Representation: Refers to Credit Values for different academic activities considered, as per the Table.1. Credits for seminar, project phases, project viva-voce and internship shall be as specified in the Scheme of Teaching and Examination.

(16) Letter Grade: It is an index of the performance of students in a said Course. Grades are denoted by letters O, A+, A, B+, B, C and F.

Table 1: Credit Values				
Theory/Lectures (L) (hours/week/Semester)	Tutorials (T) (hours/week/Semester)	Laboratory/Practical (P) (hours/week/Semester)	Credits (L:T:P)	Total Credits
4	0	0	4:0:0	4
3	0	0	3:0:0	3
2	2	0	2:1:0	3
2	0	2	2:0:1	3
2	2	2	2:1:1	4
0	0	6	0:0:3	3

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

(17) Grading: Grade refers to qualitative measure of achievement of a student in each Course, based on the percentage of marks secured in (CIE plus SEE). Grading is done by Absolute Grading [Refer: 22OMC7.0]. The rubric attached to letter grades are as follows:
O– Outstanding, A+– Excellent, A– Very Good, B+– Good, B–Average, C–Pass and F – Fail.

(18) Grade Point (GP): Refers to a numerical weightage allotted to each letter grade on a 10- point scale as under.

Letter Grade and corresponding Grade Points on a typical 10 - Point scale							
Letter Grade	O	A+	A	B+	B	C	F
Grade Point	10	09	08	07	06	05	00
% of Marks secured	90-100	80-89	70-79	60-69	55-59	50-54	0-49

(19) Passing Standards: Refers to passing a course only when getting GP greater than or equal to 05 (as per serial number 18).

(20) Credit Point: Is the product of grade point (GP) and number of credits for a course i.e.,
Credit Points (CrP) = GP x credits for the course.

(21) Semester Grade Point Average (SGPA): Refers to a measure of academic performance of student/s in a semester. It is the ratio of total credit points secured by a student in various courses of a semester and the total course credits taken during that semester.
[Refer: 22OMC7.0]

(22) Cumulative Grade Point Average (CGPA): Is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points earned by a student in various courses in all semesters and the sum of the total credits of all Courses in all the semesters. It is expressed up to two decimal places. [Refer: 22OMC7.0]

(23) Grade Card: Refers to a certificate showing the grades earned by a student. A grade card shall be issued to all the registered students after every semester. The grade card will display the program details (course code, title, number of credits, grades secured) along with SGPA of that semester and CGPA earned till that semester.

(24) University: Visvesvaraya Technological University (VTU), Belagavi.

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 program 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 program. New Horizon College of Engineering has been Ranked 121 amongst the Top Engineering Colleges across India, as per the National Institutional Ranking Framework (NIRF 2022) Rankings, announced by MHRD, Govt. of India. NHCE has secured Band ("Excellent") in ARIIA-Atal Ranking of Institutions on Innovation Achievements (MHRD) under the Private Institutions Category for the year 2021.

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 equipments.

The central facilities are as follows:

- Good ventilated class rooms
- 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 gymnasium
- Reprographic facility

1.3.1 LIBRARY & INFORMATION CENTRE

In the spacious and airy library, students have an access to the latest books, journals, computers, CDROMs 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
-  Organizing 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, Knimbus, ProQuest, ASME and Taylor & Francis.

LIBRARY INSTRUCTIONS

- ✚ Identity card should be shown at the check point.
- ✚ Leave your bags, hand bags and personal belongings at the depository/property counter.
- ✚ Students are prohibited from carrying any note book 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 re called 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 lab1 & lab2, 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 Sr. 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 Program.

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 SMARTCAREER GOAL. At NHCE, the following are the Centers of Excellence:

- Cisco Networking Academy
- Capgemini Industry 4.0 Lab
- Capgemini PLM Lab
- Capgemini VLSI Lab
- Capgemini 5 G lab
- Altair AI, ML and Data Analytics Lab
- Oracle Academy Lab
- Schneider Electric Lab
- SAP Next Gen Lab
- HPE Vertica
- VMware IT Academy
- IBM Open Power Lab
- Automation Anywhere

1.4 FACULTY

The faculties at NHCE are wholly dedicated to their task and are committed towards developing the full potential of each student. The Head 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 programs; it also offers research programs and 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 – Computer Science & Engineering
3	B.E – Computer Science Engineering (Data Science)
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 Applications
3	M.Tech in Computer Science & Engineering

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, 45

seventh semester 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
7. University of Grenoble

1.6 PROFESSIONAL SOCIETIES

Professional societies active in the campus include ISTE, IIPE, 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 supports 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

- **Academic:** Every year the Institution secures very good results. Many outstanding students have secured enviable positions in software and other industries, in campus selections.

- **Cultural:** Our students have been participating in various cultural activities at university and college levels.
- **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.
- **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.
- **Centers of Excellence:** 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. SEMESTER SCHEME

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

Academic Calendar: There shall be uniformity in the functioning of the Semester Scheme for all academic program 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 atleast 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 is 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>

<p>Academic Activities (Weeks)</p>	<p>Main Semester: 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>Supplementary Semester (For Non Eligible Students): 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>Inter-Semester Recess: 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 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>
<p>Examinations</p>	<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 non eligible students. ● Minimum, maximum and average course loads per semester are fixed by prior consultation with the university.
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3. CREDIT SYSTEMS

GENERAL

As the Credit System has many advantages over the conventional system, it is necessary to introduce an appropriate Choice Based Credit System (CBCS) for the various programs. 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.

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:

- a. Theory course, conducted for 1 hour/week
- b. 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.

COURSE REGISTRATION

A student shall register for courses (core or elective) to earn credits for meeting the requirements of a degree program. 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.

SUPPLEMENTARY SEMESTER

1. The supplementary semester is provided for helping students who have failed in their examinations. The supplementary semester is provided to help the student to avoid losing an academic year. The department/college may offer some courses based on the availability of resources in hand. It is the discretion of the department /college whether to offer the supplementary semester or not. Supplementary semester is a special semester and the student cannot demand it as a matter of right. During the supplementary semester, a student is permitted to re-register for course(s) where he/she has secured F-Grade/W-Grade (new courses/courses dropped during the regular semester are NOT allowed for registration during the supplementary semester). A student is permitted to re-register for the **maximum of 4 courses/14 credits**. All courses are not offered. A student has to opt from those offered by the department in a given supplementary semester. The student has to pay a special fee prescribed by the college to register for a course in the supplementary semester. The Institutes shall notify time table for supplementary semester well in advance.

Clause	Particulars
22OMC1.0	Title, Duration and Credits of the Programme of Study
22OMC1.1	Title: The Programme shall be called Master of Computer Applications, abbreviated as MCA.

22OMC1.2	<p>Minimum Duration:</p> <p>The Programme shall be a full time program extended over a period of two academic year duration divided into four semesters and each semester shall be of 16 weeks duration.</p>
22OMC1.3	<p>A faculty/employee working on full time basis in an institution/organization and pursuing/pursued any full time course for the same duration as that of regular shift shall be considered as ineligible for the purpose of employment/higher studies.</p>
22OMC1.4	<p>Maximum Duration for Programme Completion:</p> <p>A full-time candidate shall be allowed a maximum duration of 4 years from the first semester of admission to become eligible for the award of Master’s Degree, failing which he/she may discontinue the program or register once again as a fresh candidate to I semester of the program.</p>
22OMC1.5	<p>Prescribed Number of Credits for the Programme:</p> <p>The number of credits to be completed for the award of MCA degree shall be 100.</p>
22OMC1.6	<p>Definition of Credits:</p> <p>01 hour Lecture (L) per week per semester =1 credit 02 hours Tutorial (T) per week per semester =1 credit 02 hours Practical/Laboratory/Drawing (P) per week per semester=1 credit.</p> <p>Note:</p> <ul style="list-style-type: none"> • Four credit courses are designed for 50 hours Teaching-Learning process. • Three credit courses are designed for 40 hours Teaching-Learning process.
22OMC1.7	<p>The calendar of events in respect of the program shall be notified by the university in advance.</p>
22OMC2.0	<p>Eligibility for Admission (As per the Government orders issued from time to time)</p>
22OMC2.1	<p>Eligibility for Admission for MCA Programme (As per the Government orders issued from time to time):</p> <p>Passed BCA/ Bachelor Degree in Computer Science Engineering or equivalent Degree. OR Passed B.Sc./ B.Com./ B.A. with Mathematics at 10+2 level or at</p>

	Graduation Level (with additional bridge courses as per the norms of the concerned university). Obtained at least 50% marks (45% marks in case of candidates belonging to reserved category) in the qualifying Examination.
22OMC2.2	<p>For admissions under PG CET qualification and Roaster System of Government of Karnataka:</p> <p>There shall be an Entrance Examination (PGCET) for admission to the MCA program. A candidate seeking admission to MCA program offered in any of the engineering colleges affiliated to VTU shall appear for this examination. For admission under Government quota, ranks obtained in PGCET entrance exam, conducted by Karnataka Examination Authority (KEA), shall be considered. For admissions under</p> <p>Management Quota: The candidates should have appeared for the Entrance Examination conducted by KEA (PGCET)/Karnataka Management Aptitude Test (KMAT) or appeared and qualified under any approved entrance examination conducted by the authority recognized by Government of Karnataka/VTU.</p> <p>Further, there shall be an Admissions Committee for the MCA Program consisting of the Principal of the college as the Chairman, Head of the concerned Department and one / senior staff member of the concerned Department. The Admissions Committee conducts the interview and selects the candidates for admission.</p>
22OMC2.3	<p>The candidates from universities other than the universities of Karnataka shall have to obtain Eligibility Certificate from the VTU to seek admission to MCA program in any of the college affiliated to VTU.</p> <p>The candidates from foreign countries shall have to obtain eligibility certificate from the VTU to seek admission to MCA program in any of the colleges affiliated to VTU. Further, they have to produce an equivalence certificate from the association of Indian Universities.</p>
22OMC2.4	The intake under various categories (regular, sponsored candidates and SC/ST) shall be as sanctioned by the AICTE, State Government and VTU, from time to time.

22OMC2.5	<p>Admission to vacant seats:</p> <p>Seats remaining vacant (unfilled), after the completion of PG admission process by Karnataka Examination Authority, shall be filled by the Institution by inviting applications through press notification. The seats shall be filled by candidates preferably who have valid PG CET score. In the absence of such candidates, admission shall be based on merit in the entrance test conducted at the Institution level. An admissions committee, consisting of the Principal of the college, Head of the concerned Department and the subject experts, shall be in charge of admissions.</p>
22OMC3.0	<p>Courses</p>
22OMC3.1	<p>The curriculum of the program shall be any combination of following type of courses:</p> <p>(i) Professional Core Courses (PCC)/BSC/MCC-relevant to the chosen specialization/ branch. The core course is to be compulsorily studied by a student and is mandatory to complete the requirements of a program in a said discipline of study.</p> <p>(ii) Professional Electives Courses (PEC) - relevant to the chosen specialization/branch; these are the courses, which can be chosen from the pool of papers. It shall be supportive to the discipline/providing extended scope/enabling an exposure to some other discipline/domain/nurturing student skills.</p> <p>(iii) Open Electives Courses (OEC), from other technical and/or emerging specialization areas.</p> <p>(iv) Project Work, Seminar, Societal Project, Mini Project.</p> <p>(v) Audit Courses (AC):</p> <p>(a) The Audit course can be any credit course offered by the program to which the Candidate is admitted (other than the courses considered for completing the prescribed program credits). Audit course/s are non-credit courses opted by students for self-enrichment. Though, the CIE and SEE are not required, the attendance to be compulsorily satisfied, for the audit course/s to find a place in the grade card without the mention of letter</p>

	<p>grade and credit.</p> <p>(vi) Professional training/Internship: Preferably at an industry/R and D organization/IT company/ Government organization/ Business organization of significant repute for a specified period mentioned in Scheme of Teaching and Examination.</p> <p>(vii) On-line Courses: These mandatory online courses are ability enhancement courses or skill development courses or emerging technology courses or bridge courses or advanced learning courses. These courses are suggested by the concerned board of studies/VTU. The students have to opt for these courses with the help of a mentor/staff coordinator. These courses are not counted for vertical progression, however to qualify for the award of degree the students has to pass two courses.</p> <p>(viii) Integrated Professional Core Course (IPCC): Professional Theory Core Course Integrated with practical of the same course. The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper</p> <p>(ix) Bridge Course (BC): It is a non-credit course introduced to the students who admits into MCA program from non-computer science background. To qualify for the award of degree the students has to pass the course.</p>
22OMC3.2	A candidate shall exercise his /her option in respect of the electives and register for the same before the beginning of the concerned semester. The candidate may be permitted to opt for change of elective subject within 10 days from the date of commencement of the semester as per the calendar of the Institution.
22OMC3.3	Students shall be allowed to choose the elective/s, depending on their career plans, and there shall not be any restriction to the minimum number of students to be registered for an elective course.
22OMC4.0	Internship
22OMC4.1	<p>Internship: The student shall undergo Internship for the specified period as per the Scheme of Teaching and Examination.</p> <p>(1) The internship shall be carried out in any industry/R&D</p>

	<p>Organization/Business Organization/Research Institute/Institute of national and international reputed Business Organization/ recognized national and international Professional Bodies, Societies or Organizations.</p> <p>(2) The department/college shall nominate a faculty to facilitate, guide and supervise students under internship.</p> <p>(3) The students shall report the progress of the internship to the internal guide in regular intervals and seek his/her advise.</p> <p>(4) The Internship shall be completed during the period specified in Scheme of Teaching and Examination.</p> <p>(5) After completion of Internship, students shall submit a report to the Head of the Department with the approval of both internal and external guides.</p> <p>(6) There shall be 50 marks for CIE (Presentation: 25 marks, Report: 25 marks) and shall be evaluated by the internal panel.</p> <p>(7) The students are permitted to carry out the internship anywhere in India or abroad. The Institution will not provide any kind of Financial Assistance to any student for internship.</p>
22OMC4.2	<p>Failing to undergo Internship: Internship is one of the head of passing. Completion of internship is mandatory. If any student fails to undergo/complete the internship, he/she shall be considered as failed in that course and the prescribed credits shall not be awarded in that course. The student, however, can submit the project dissertation and appear for viva voce. The student shall be eligible for the internship credits only after satisfying the conditions prescribed for the same during the subsequent academic year. The reappearance shall be considered as an attempt.</p>
22OMC5.0	Seminar
22OMC5.1	<p>Seminar: Seminar is one of the head of passing.</p> <p>(i) Each candidate shall deliver seminar as per the Scheme of Teaching and Examination on the topics chosen from the relevant fields for about 30 minutes.</p> <p>(ii) The Head of the Department shall make arrangements for conducting seminars through concerned faculty members of the Department. The</p>

	<p>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 faculty from the Department and the senior most acting as the Chairman/Chairperson. [To be read along with 22OMC10.3]</p>
22OMC6.0	Project
22OMC6.1	<p>Project Work and Dissertation:</p> <p>Each candidate shall carry out the project work independently as per Scheme of Teaching and Examinations under the guidance of one of the faculty members of the Department in the Institution of study. If the project is of inter-disciplinary nature, a co-guide shall be taken from the other concerned department. The topic and title of the dissertation shall be chosen by the candidate in consultation with the guide and co-guide, If any, during III semester. The subject and topic of the dissertation shall be from the major field of studies of the candidate. Modification of only the little but not the field of work may be permitted at the time of final submission of dissertation report during fourth semester. If dissertation has to be carried out in any industry/ R&D labs, outside the campus, permission shall be taken from the Principal to that effect.</p>
22OMC6.2	<p>Project is one of the head of passing:</p> <p>The candidate shall submit a soft / hard copy of the dissertation work to the Guide, upon checking will forward it to the office of controller of examination. Chairman of respective BoS shall submit a panel of examiners to the office of CoE. The examiners shall be selected from the panel and the project work will be evaluated by them.</p>
22OMC6.3	<p>Plagiarism Check:</p> <p>Once the dissertation is ready, the guide shall send it for plagiarism check. The allowable plagiarism index is less than or equal to 10%.If the check indicates a plagiarism index greater than 10%, the candidate has to resubmit the dissertation, after making necessary correction. After the plagiarism check the dissertation shall be forwarded to the office of controller of examination along with the plagiarism report.</p>

22OMC6.4	The dissertation shall be sent through email for evaluation to two examiners - one internal examiner (guide/co-guide) and one external examiner (first) appointed by the COE from the list sent by BOS. The evaluation of the dissertation shall be made independently by each examiner.
22OMC6.5	Examiners shall evaluate the dissertation normally within a period of not more than two weeks from the date of receipt of dissertation through email.
22OMC6.6	The examiners shall independently submit the marks in the specified format through email to the office of CoE
22OMC6.7	Average of the marks awarded by the two Examiners shall be the final evaluation marks for the Dissertation.
22OMC6.8	<p>(a) Viva-voce examination of the candidate shall be conducted as per 22OMC6.10, if the dissertation work and the reports are accepted by the external examiner (first).</p> <p>(b) If the external examiner (first) finds that the dissertation work and the report are not up to the expected standard and the minimum passing marks cannot be awarded, the dissertation shall not be accepted for SEE.</p> <p>(c) The external examiner (first) can recommend for modifications/suggestions of dissertation or totally reject the dissertation. The examiner shall offer suggestions for improvement of the dissertation for resubmission or list the reasons for rejection of the dissertation.</p> <p>(d) The resubmitted Dissertation incorporating the modifications/suggestions [as per 22OMC6.8 (b)] of the external examiner (first) and satisfying the provision 22OMC6.3 shall be sent again to the external examiner (first) for evaluation. If the dissertation and the report are accepted by the external examiner (first), Viva- voce examination of the candidate shall be conducted as per 22OMC6.10.</p> <p>(e) In case of rejection of Dissertation by the external examiner (first), the same will be sent to a Second Examiner (external) approved by the office of CoE. The decision of the Second Examiner (external) is final. If the dissertation and the report are accepted by the Second Examiner (external), Viva-voce examination of the candidate shall be conducted as per 22OMC6.10. If the</p>

	<p>Second Examiner (external) rejects the dissertation and the report, the candidate shall have to carry out the dissertation work once again and submit the dissertation subject to provisions of 22OMC1.4. In such cases of rejection, the candidate shall redo the entire procedure starting from the submission of Dissertation in soft copy.</p> <p>(f) In case of rejection of Dissertation, with reasons, by the external examiner (first) [as per 22OMC6.8 (b)], the same will be sent to a Second Examiner (external) [not necessarily the same examiner considered under 22OMC6.8 (d)] approved by the office of CoE. The decision of the Second Examiner (external) is final. If the dissertation and the report are accepted by the Second Examiner (external), Viva-voce examination of the candidate shall be conducted as per 22OMC6.10.</p> <p>If the Second Examiner (external) rejects the dissertation and the report, the candidate shall have to carry out the dissertation work once again and submit the dissertation subject to provisions of 22OMC1.4. In such cases of rejection, the candidate shall redo the entire procedure starting from the submission of Dissertation in soft copy.</p>
22OMC6.9	<p>The candidate, whose Dissertation is rejected, can rework on the same topic or choose another topic of dissertation under the same Guide or new Guide if necessary. In such an event, the report shall be submitted subject to provisions of 22OMC1.4.</p>
22OMC6.10	<p>Viva-voce examination of the candidate shall be conducted by the external examiner and internal examiner/ guide.</p> <p>Internal examiner as per the direction of the office of CoE, shall have to arrive at a mutually convenient date for the conduct of viva-voce examination of the concerned candidate with an intimation to the office of CoE. In case one of the examiners expresses his/her inability to attend the viva-voce, the office of CoE shall appoint a substitute examiner in his/her place.</p>
22OMC6.11	<p>The relative weights for the evaluation of dissertation and the performance at the viva voce shall be as per the scheme of teaching and examination.</p>

22OMC6.12	The marks awarded by both the Examiners at the viva voce Examination shall be sent jointly to the office of CoE immediately after the examination.																																							
22OMC6.13	Examination fee as fixed from time to time by the Institution for evaluation of dissertation report and conduct of viva voce shall be remitted through the Head of the Institution as per the instructions of Registrar (Evaluation) from time to time.																																							
22OMC6.14	The candidates who fail to submit the dissertation work within the stipulated time have to submit the same at the time of next ensuing examination.																																							
22OMC7.0	Computation of SGPA and CGPA																																							
22OMC7.1	<p>(i) The Institution adopts absolute grading system wherein the marks are converted to grades, and every semester results will be declared with semester grade point average (SGPA) and Cumulative Grade Point Average (CGPA). The CGPA will be calculated for every semester, except for the first semester.</p> <p>(ii) The grading system with the letter grades and the assigned range of marks under absolute grading system are as given below:</p> <table border="1" data-bbox="379 1137 1437 1503"> <thead> <tr> <th>Level</th> <th>Outstanding</th> <th>Excellent</th> <th>Very Good</th> <th>Good</th> <th>Average</th> <th>Pass</th> <th>Fail</th> </tr> </thead> <tbody> <tr> <td>Letter Grade</td> <td>O</td> <td>A+</td> <td>A</td> <td>B+</td> <td>B</td> <td>C</td> <td>F</td> </tr> <tr> <td>Grade Points</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>0</td> </tr> <tr> <td rowspan="2">Percentage of Marks Scored in a Course</td> <td>≥90</td> <td><90 ≥80</td> <td><80 ≥70</td> <td><70 ≥60</td> <td><60 ≥55</td> <td><55 ≥50</td> <td><50</td> </tr> <tr> <td>(90-100)</td> <td>(80-89)</td> <td>(70-79)</td> <td>(60-69)</td> <td>(55-59)</td> <td>(50-54)</td> <td>(0-49)</td> </tr> </tbody> </table> <p>(iii) A student obtaining Grade F in a course shall be considered failed and is required to register in supplementary semester. Whatever the letter grade secured by the student during his /her reappearance shall be retained. However the number of attempts taken to clear a course shall be indicated in the grade cards/ transcripts.</p> <p>If a student is not eligible for appearing SEE, due to non – comply of any of the course letter grade assigned that course shall be NE.</p> <p>(iv) Transitional grades: The transitional grades, such as, 'I', 'W' and 'X' shall</p>	Level	Outstanding	Excellent	Very Good	Good	Average	Pass	Fail	Letter Grade	O	A+	A	B+	B	C	F	Grade Points	10	9	8	7	6	5	0	Percentage of Marks Scored in a Course	≥90	<90 ≥80	<80 ≥70	<70 ≥60	<60 ≥55	<55 ≥50	<50	(90-100)	(80-89)	(70-79)	(60-69)	(55-59)	(50-54)	(0-49)
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	(90-100)	(80-89)	(70-79)	(60-69)	(55-59)	(50-54)	(0-49)																																	

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.

a. 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 to be away from the college
- Any other verifiable exigency

b. 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.

c. Grade 'X':

Awarded to a student having high CIE rating ($\geq 90\%$) in a course, but SEE performance observed to be poor, which could result in an overall F grade in the course.

(v) 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.

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.

(vi) 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.

(vii) Supplementary exam facility shall be available to the students who have got F grades.

22OMC7.2

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,

$$SGPA = \frac{\Sigma[\text{CourseCredits} \times \text{GradePoints}] \text{for all the Courses in that Semester}}{\Sigma[\text{CourseCredits}] \text{for all the Courses in that Semester}}$$

$$CGPA = \frac{\Sigma[\text{CourseCredits} \times \text{GradePoints}] \text{for all Courses excluding those with F and transitional grades until that Semester}}{\Sigma[\text{CourseCredits}] \text{for all Courses excluding those with F grades until that Semester}}$$

(a) SGPA and CGPA Calculations: An Illustrative Example for one academic year						
Semester (Odd :I, Even: 11)	Course Number	Credits	Grade	Grade Points	Credit Points	SGPA, CGPA
I	XX101	5:0:0= 5	A	8	5×8=40	$SGPA = \frac{122}{25}$ = 4.88
I	XX102	3:2:0= 5	Absent(F)	0	5×0 =00	
I	XX103	3:0:0= 3	A+	9	3×9=27	
I	XX104	0:1:1 = 2	F	0	2×0=00	
I	XX105	4:1:0= 5	B	6	5×6=30	
1	XX106	5:0:0= 5	C	5	5×5=25	
Total		25 (18*)	Total		122	
(18*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.						

	II	XX107	3:1:1 = 5	B+	7	5×7	$SGPA = \frac{158}{25}$ $= 6.32$																				
	II	XX108	4:0:0 = 4	A	8	4×8																					
	II	XX109	3:0:0= 3	B	6	3×6																					
	II	XXI10	4:1:0= 5	C	5	5×5																					
	II	XXI11	2:1:1 = 4	A	8	4×8	$CGPA = \frac{(122 + 158)}{18 + 23}$ $= \frac{274}{41} = 6.83$																				
	II	XXI12	2:0:0= 2	F	0	2×0																					
	II	XXI13	0:2:0 = 2	A	8	2×8																					
	Total		25 (23*)	Total		158																					
<p>(23*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.</p>																											
<p>If the Student secures letter grades as detailed below after reappearance to SEE, then the SGPA and CGPA shall be calculated as indicated below.</p>																											
	I	XX102	3:2:0=5	B	6	5×6=30	$SGPA (ISemester) = \frac{122 + 30 + 14}{25}$ $= \frac{166}{25} = 6.64$																				
	I	XX104	0:1:1=2	B+	7	2×7=14																					
	II	XX112	2:0:0=2	B	6	2×6=12	$SGPA (IISemester) = \frac{158 + 12}{25}$ $= \frac{170}{25} = 6.8$																				
<p>CGPA at the end of the academic year after passing all the courses of the two consecutive semesters under consideration = $\frac{(6.64 \times 25 + 6.8 \times 25)}{50} = 6.72$</p>																											
<p>(b) CGPA Calculation of the Programme: An Illustrative Example</p> <table border="1"> <thead> <tr> <th>Semester</th> <th>I</th> <th>II</th> <th>III</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Credits of the</td> <td>24</td> <td>26</td> <td>24</td> <td>26</td> </tr> <tr> <td>SGPA</td> <td>7.00</td> <td>8.50</td> <td>9.20</td> <td>6.86</td> </tr> <tr> <td>CGPA</td> <td colspan="4"> $CGPA = \frac{(24 \times 7.00 + 26 \times 8.50 + 24 \times 9.20 + 26 \times 6.86)}{100}$ $= 7.88$ </td> </tr> </tbody> </table>								Semester	I	II	III	IV	Credits of the	24	26	24	26	SGPA	7.00	8.50	9.20	6.86	CGPA	$CGPA = \frac{(24 \times 7.00 + 26 \times 8.50 + 24 \times 9.20 + 26 \times 6.86)}{100}$ $= 7.88$			
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22OMC7.3	<p>Grade Card: Based on the secured letter grades, grade points, SGPA and CGPA, a grade card for each semester and a consolidated grade card indicating the performance in all semesters shall be issued.</p>																										
22OMC8.0	<p>Conversions of Grades into Percentage and Class Equivalence</p>																										
22OMC8.1	<p>Conversions of Grades into Percentage Conversion formula for the conversion of CGPA into percentage is given below: Percentage of marks secured, P=[CGPA Earned]×10</p>																										

	Illustration for a CGPA Of 8.20: $P=[CGPA \text{ Earned } 8.2] \times 10=82.0 \%$
22OMC8.2	<p>Class Equivalence:</p> <p>After the conversion of final CGPA into percentage of marks (P), a graduating student is reckoned to have passed in</p> <ul style="list-style-type: none"> • First Class with Distinction [FCD] if $P \geq 70\%$ • First Class (FC) if $P \geq 60\%$ but $< 70\%$ and • Second Class (SC) if $P < 60\%$, and $P > 50\%$.
22OMC9.0	<p>Continuous Internal Evaluation and Semester End Evaluation</p> <p>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.</p>
22OMC9.1	<p>Continuous Internal Evaluation</p> <p>There shall be maximum of 50% CIE Marks in each theory and practical paper. A candidate shall obtain not less than 50% of the maximum marks prescribed for the CIE of each Theory course/ Laboratory/Internship/Project.</p> <p>[To be read along with 22OMC9.8]</p>
22OMC9.2	<p>(1) CIE Marks for theory shall be based on</p> <ul style="list-style-type: none"> (a) Tests for theory component(50% of Marks) (b) 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 (50% of 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. <p>(2) CIE Marks for Integrated Professional Core Courses(IPCC) shall be based on</p> <ul style="list-style-type: none"> (a) Tests for theory component (for 50% Marks) (b) Alternate assessment (for 10% Marks) (c) Practical Component(for 40% Marks) <p>The total CIE marks (maximum 50 marks) shall be the sum of the marks secured in IA Tests (average of all 3 tests) and marks secured in CIE for Practical Component.</p> <p>(3) CIE Marks for Professional Core Course Lab(PCCL) shall be based on</p> <ul style="list-style-type: none"> (a) Tests for lab component (For 100% Marks) <p>The total CIE marks (maximum 50 marks) shall be the average of the marks secured in two IA Tests.</p>
22OMC9.3	<p>The CIE marks in a theory course, for 25 marks, shall be based on three tests covering the entire syllabus. An additional test may be conducted for the needy students to provide an opportunity to improve their CIE Marks before the end of the semester. The CIE marks shall be the average of the marks scored in three tests.</p>

22OMC9.4	The candidates shall write the Tests in Blue Book/s. The Blue book/s and other documents relating to award of CIE marks under 22OMC9.2 shall be preserved by the Principal / Head of the Department for at least six months from the date of announcement of results and made available for verification at the directions of the office of CoE .
22OMC9.5	Every page of the CIE marks list shall bear the signatures of the concerned Teacher, Head of the Department and the Principal.
22OMC9.6	The CIE marks list shall be displayed on the Notice Board and corrections, if any, shall be incorporated before submitting to the office of CoE.
22OMC9.7	The CIE marks shall be sent to the office of CoE by the Head of the department well in advance before the commencement of Semester End Examinations. No corrections of the CIE marks shall be entertained after the submission of marks.
22OMC9.8	Candidates obtaining less than 50% of the CIE marks in any course (Theory/Seminar Laboratory/ Internship/ Project) shall not be eligible to appear for the Semester End examination in that course/s. In such cases, the Head of the Department shall announce the student as NSSR. The student can register for the course in supplementary semester when offered.
22OMC9.9	Semester End Evaluation: There shall be a semester end examination at the end of each semester. Setting Theory Question Papers and Evaluation: Question papers in theory courses shall be set by the Examiners appointed by the Chairman - Board of Examination and approved by CoE.
22OMC9.10	There shall be double valuation of theory papers. The theory Answer booklets shall be valued independently by two examiners appointed by the Chairman - Board of Examination and approved by CoE.
22OMC9.11	If the difference between the marks awarded by the two Examiners is not more than 15 per cent of the maximum marks, the marks awarded to the candidate shall be the average of two evaluations.
22OMC9.12	If the difference between the marks awarded by the two Examiners is more than 15 per cent of the maximum marks, the answer booklet shall be evaluated by a third Examiner appointed by the office of CoE. The average of the marks of nearest two valuations shall be considered as the marks secured by the candidate. In case, if one of the three marks falls exactly midway between the other two, then the highest two marks shall be taken for averaging.
22OMC10.0	Eligibility for Passing and Award of Degree
22OMC10.1	(1) A Student who obtain any grade O to C shall be considered as passed and if a student secures F grade in any of the head of passing he/she has to reappear in that head for the Semester End Examination(SEE). (2) A student shall be declared successful at the end of the Programme for the

	award of Degree only on obtaining CGPA \geq 5.00, with none of the courses remaining with F Grade.
22OMC10.2	<p>(1) For a pass in a theory and laboratory (practical) course, the student shall secure minimum of 40% of the maximum marks prescribed in the SEE and 50% of marks in CIE and 50 % in the aggregate of CIE and SEE marks. The Minimum Passing Grade in a course is C.</p> <p>(2) For a pass in Integrated Professional Core Course(IPCC) which refers to Professional Theory Core Course integrated with practical of the same course, the student have to secure a minimum of 50% marks in both theory and practical components of CIE. However, the student shall secure minimum of 40% of the maximum marks prescribed in the SEE and 50% of marks in CIE and 50 % in the aggregate of CIE and SEE marks. The Minimum Passing Grade in such course is C.</p> <p>(3) For Bridge Course(BC), a non-credit Course introduced to the students who admits into MCA Programme from non computer Science background, have to secure minimum of 40% of the maximum marks prescribed in the SEE and 50% of marks in CIE and 50 % in the aggregate of CIE and SEE marks.</p> <p>(4) For Audit Courses/ Ability Enhancement Courses suggested by BOS(Online Courses), there is no credit and are not counted for Vertical Progression. However, a pass in two such courses is mandatory for the Award of the Degree.</p>
22OMC10.3	<p>(1) For a pass in Internship (INT)/Seminar/Mini Project/Project Work Phase-2 examination, a student shall secure minimum of 40% of the maximum marks prescribed in the SEE and 50% of marks in CIE and 50 % in the aggregate of CIE and SEE marks. The Minimum Passing Grade in a course is C.</p> <p>(2) For Societal Project (SP) / Project Work Phase-1 examination, a student shall secure minimum of 50% of marks in CIE. The Minimum Passing Grade in a course is C.</p>
22OMC10.4	IV semester candidates having backlog courses are permitted to upload the dissertation report and to appear for SEE. The IV semester grade card shall be released only when the candidate completes all the backlog courses and become eligible for the award of degree.
22OMC10.5	<p>(1) A candidate may at his/her desire reject his/her latest semester, except the IV semester results of university examination in respect to all courses of that semester. Rejection shall be permitted only once during the entire Programme. The CIE marks of the rejected semester shall remain the same.</p> <p>(2) Rejection of results of the university examination including CIE marks is not permitted.</p>

22OMC10.6	If the rejection of the university examination results of the semester happens to be of an odd semester, the candidate can take admission to the immediate next even semester. However, if the rejection of the university result is of even semester, the candidate cannot take admission to the next odd semester.
22OMC10.7	Application for rejection shall be submitted to the Registrar (Evaluation) through the Principal of the college, within thirty days from the date of announcement of results.
22OMC10.8	A candidate, who opts for rejection of results of a semester shall be eligible for the award of class and distinction, but shall not be eligible for the award of rank.
22OMC10.9	Eligibility for Award of Degree: A student shall be declared to have completed the degree of Master of Computer Applications, provided the student has undergone the stipulated course work as per the regulations and has earned the prescribed Credits, as per the Scheme of Teaching and Examination of the program.
22OMC11.0	Attendance Requirement
22OMC11.1	Registration and Enrolment: (i) Except for the first semester, registration for a semester will be done during a specified week before the semester end examination of the previous semester. (ii) The registration sheet should have the Candidate details, course name and code, number of credits and category (core/elective/audit) for each course of that semester. (iii) The Faculty Adviser, assigned by the Head of the Department, will counsel the students in planning their courses of study and provide guidance, motivation, emotional support, and enable the mentees to reach the desired professional and career goals.
22OMC11.2	Courses of each semester shall be treated as a separate unit for calculation of the attendance.
22OMC11.3	The candidate has to put in a minimum attendance of 85 % in each course with a provision to condone 10 % of the attendance by the recommendation of the Principal of the college where the candidate is studying, based on medical grounds, participation in NSS/NCC/Red Cross /Republic Day and Independence Day parades/University/ State/ National/ International level sports and cultural activities, seminars, workshops, paper presentation etc., of significant value. The necessary documents in support are to be submitted along with recommendations to condone the shortage.
22OMC11.4	In case of late admission, approved by competent authority (Karnataka Examination Authority/VTU), to I semester of the program the attendance shall be reckoned from the date of admission to the program.

22OMC11.5	<p>NSSR & NSAR: 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 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. Improvement in CIE marks shall not be allowed during the current semester. The course/s when repeated is considered as attempts. The courses with F grade should be registered and taken only during supplementary semester.</p>
22OMC11.6	Principals of the concerned colleges shall notify regularly, the list of candidates who fall short of attendance.
22OMC11.7	The list of the candidates falling short of attendance shall be sent to the office of CoE at least one week prior to the commencement of the examination.
22OMC12.0	Promotion and Eligibility (Vertical Progression)
22OMC12.1	<p>Promotion: There shall be no restriction for promotion from an odd semester to the next even semester, provided the student has fulfilled the attendance requirement.</p>
22OMC12.2	<p>(a) Candidates, with a maximum of four backlog courses of first year shall be eligible for taking admission to second year (III semester). (b) Each credit course shall be treated as a head of passing.</p>
22OMC12.3	The Mandatory non - credit courses, if any, shall not be considered for the Eligibility criterion prescribed for promotion, award of Class, calculation of SGPA and CGPA. However, a pass in the above courses is mandatory before the completion of Degree.
22OMC12.4	Passing ONLINE courses is mandatory for the award of degree. ONLINE courses are not considered under vertical progression; however, the student has to pass these courses before the completion of the maximum duration of the program. If a student fails in a selected ONLINE course in a semester then he/she can pass the course in the next semester by taking the same course (if offered online) or other university-approved available courses during that session. The title of the course/s in which he/she qualify shall be mentioned in the grade card with letter PP.

22OMC13.0	Temporary Discontinuation/Break in the Program
	<p>(a) If a candidate, for any reason, temporarily discontinues the Programme or take a break from program during any semester, he/she may be permitted to continue in the program by registering to the same semester of the prevailing scheme. The candidate shall complete all the remaining course work subject to the provision 22OMC1.6. Also the Candidates may have to complete additional course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank.</p> <p>(b) Candidates who takes admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons have to complete additional course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank.</p>
22OMC14.0	Award of Prizes, Medals and Ranks
22OMC14.1	For the award of Prizes and Medals, the conditions stipulated by the Donor shall be considered subject to the provisions of the statutes framed by the Institution/University for such awards.
22OMC14.2	<p>(1) For award of rank in a Specialization of Master of Computer Applications, the CGPA secured by the student on completion of the program is considered.</p> <p>(2) A student shall be eligible for a rank at the time of award of degree of Master of Computer Applications, provided the student</p> <ul style="list-style-type: none"> • Is not a repeater in any semester • Has not rejected the results of any semester. • Has passed I to IV semester in all the courses in first attempt only <p>(3) The total number of ranks awarded shall be 10% of total number of students appeared in IV semester subject to a maximum of 10 ranks.</p> <p>Illustration:</p> <p>(a) If 150 students appeared for the IV semester, the number of ranks to be declared will be 10.</p>

	<p>(b) If 84 students appeared for the IV semester, the number of ranks to be declared for will be 08.</p> <p>In case of fractional number of ranks, it is rounded to higher integer only when the first decimal place value is greater than or equal to 5.</p>
	<p>Ranks are awarded based on the merit of the students as determined CGPA. If two or more students get the same CGPA, the tie shall be 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 like O, A+,A ,B+ etc., shall be taken into account to decide the order of the rank</p>
22OMC15.0	Applicability and Power to Modify
22OMC15.1	The regulations governing the Degree of Master of Computer Applications shall be binding on all concerned.
22OMC15.2	<p>1) Not with standing anything contained in the foregoing, the Institution shall have the power to issue directions/ orders to address any difficulty.</p> <p>2) Nothing in the foregoing may be construed as limiting the power of the Institution to amend, modify or repeal any or all of the above.</p>

5 DISCIPLINARY MEASURES

5.1 GENERAL MEASURES

- (a)** The student will not assist or even associate him/her in any activities that are 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.

5.2 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.

5.3 DRESS CODE

- Dress code is defined based on the need for safety, decency, functionality and comfort.
- Displaying offensive and obscene slogans and icons on clothing is prohibited.

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 who do not follow the dress code.

5.4 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.

5.6 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
- Motor cyclists 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.

6. 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.

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

1. 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.

2. 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.

3. SIZE OF PROJECT REPORT

The size of project report should be at least 50 pages.

4. 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.

5. 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.

6. 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

(Template of Cover Page & Title Page)

TITLE

<1.5line spacing>

**A MINIPROJECT /
PROJECTREPORT**

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

MASTER OF COMPUTER APPICATIONS

GUIDELINES FOR EVALUATION OF PROJECT PHASE-1

Project Phase-1 Students in consultation with the guide/s shall carry out literature survey/ visit industries to finalize the topic of the Project. Subsequently, the students shall collect the material required for the selected project, prepare synopsis and narrate the methodology to carry out the project work.

Seminar: Each student, under the guidance of a Faculty, is required to

- Present the seminar on the selected project orally and/or through power point slides.
- Answer the queries and involve in debate/discussion.
- Submit two copies of the typed report with a list of references.

The participants shall take part in discussion to foster friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.

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- Submit two copies of the typed report with a list of references.

The participants shall take part in discussion to foster friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.

Continuous Internal Evaluation: 100 Marks

CIE marks for the project report (50 marks), seminar (30 marks) and question and answer (20 marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session by the student) by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three faculty from the department with the senior most acting as the Chairperson.

GUIDELINES FOR EVALUATION OF SOCIETAL PROJECT

- Students are expected to build creative solutions for development problems of current scenario in the Society.
- Utilize the skills developed in the curriculum to solve real life problems.
- Improve understanding and develop methodology for solving complex issues.

Continuous Internal Evaluation (CIE): 100 Marks

- **Identifying the real life problems and producing literature report : 20 marks**
- **Data sampling and Cleaning :10 Marks**
- **Establishing the right Objective: 10 Marks**
- **Developing the solution : 20 Marks**

Propagating the solution to the stake holders 1)Lectures 2)Social Meetings 3)Social media 4)Street plays5)Advertisement Either of the 3(evidence of the work through Jio tag photo)

- **Project Report: 20 marks.** The basis for awarding the marks shall be the involvement of the student in the project and in the preparation of project report. To be awarded by the internal guide in consultation with external guide if any.
- **Project Presentation: 10 marks.**
The Project Presentation marks of the Project Work **Phase-II** shall be awarded by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three faculties from the department with the senior most acting as the Chairperson.
- **Evaluation: 10 marks.**
The student shall be evaluated based on the ability in the Question and Answer session for 10 marks.

GUIDELINES FOR EVALUATION OF PROJECT PHASE-2

Each student of the project batch shall involve in carrying out the project work jointly in constant consultation with internal guide, co-guide, and external guide and prepare the project report as per the norms avoiding plagiarism.

- Follow the software development life cycle
- Data collection and planning
- Design the test cases
- Validation and verification of attained results
- Significance of parameters w.r.t scientific quantified data.
- Paper publication in Scopus indexed conference/reputed journal.

Continuous Internal Evaluation:

Project Report: 20 marks. The basis for awarding the marks shall be the involvement of the student in the project and in the preparation of project report. To be awarded by the internal guide in consultation with external guide if any.

Project Presentation: 20 marks.

The Project Presentation marks of the Project Work Phase -II shall be awarded by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three faculties from the department with the senior most acting as the Chairperson.

Project Execution: 50 Marks

The Project Execution marks of the Project Work Phase -II shall be awarded by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three faculties from the department with the senior most acting as the Chairperson.

Question and Answer: 10 marks.

The student shall be evaluated based on the ability in the question and answer session for 10 marks.

Semester End Examination

SEE marks for the project report (60 marks), seminar (30 marks) and question and answer session (10 marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session) by the examiners appointed by the university.

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 candidate.

1. 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.

2. 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.

3. Plagiarism-check certificate from NHCE library

The project report should be submitted for plagiarism check to NHCE library and the Permitted Similarity index should be $\leq 20\%$.

4. The organization of the report should be as follows

- Inner title page, Abstract or Synopsis, Acknowledgments, Table of Contents, List of tables & figures (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 should be appropriately divided 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, 2.5.1 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.

5. 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. Schaffer, Digital Signal Processing, Englewood, N.J., Prentice Hall, 3 Edition, 1975.

- For papers – Devid, Insulation design to combat pollution problem, Proceedings of IEEE, PAS, Vol 71, Aug 1981, pp 1901-1907.
- Important equations must be numbered in decimal form for e.g. $V = IZ$ (3.2)
- All equation numbers should be justified towards right.
- 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.
- 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.

6. Format of the College-Certificate



NEW HORIZON
COLLEGE OF ENGINEERING

Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

Ring Road, Near Marathahalli,
Bengaluru – 560 103

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

CERTIFICATE

This is to certify that **<STUDENT NAME>**, bearing USN **<USN NO>** has successfully completed his/her final year IV semester Industry Internship / Project work entitled **<PROJECT TITLE>** as a partial fulfillment of the requirements for the award of **MASTER OF COMPUTER APPLICATIONS** degree, during the Academic Year **<>** under my supervision. This report has not been submitted to any other Organization/University for any award of degree.

Signature of the Internal Guide

Head of the Department

sd/-Principal

External Viva

Internal Examiner

External Examiner

Date:

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

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 the degree Master
of Computer Applications by New Horizon College of Engineering, an Autonomous Institution,
Affiliated to Visvesvaraya Technological University, Belgaum during the academic year.....It
is certified that, he/she has completed the project satisfactorily.

Name & Signature of the Guide:

Organization Name with Address:

8. COLOUR OF THE OUTER COVER/FRONT PAGE OF PROJECT REPORT

The outer cover/front page of the project report should be in green color.

9. Team Size - Mini Project, Societal Project, Project Phase 1/ Phase 2, Internship/Main Project

Must be INDIVIDUAL projects and NOT group projects.