K.S.RANGASAMY COLLEGE OF TECHNOLOGY
TIRUCHENGODE - 637 215
(An Autonomous Institution affiliated to Anna University, Chennai and approved by AICTE, New Delhi)

B.E. / B.Tech.
REGULATIONS 2018
(Academic year 2018-19 onwards)

CONTENT

K.S.RANGASAMY COLLEGE OF TECHNOLOGY, TIRUCHENGODE - 637 215

(An Autonomous Institution, Affiliated to Anna University, Chennai and approved by AICTE, New Delhi)

B.E. / B.Tech. REGULATIONS 2018

These regulations are applicable to the candidates admitted to B.E. / B.Tech. Programme from the academic year 2018-19 onwards.

Degree of Bachelor of Engineering / Technology (Eight Semesters)

1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In these Regulations, unless the context otherwise requires:

1.1 **Programme** means Degree Programme (i.e.) B.E. / B.Tech. Degree Programme.

1.2 **Branch** means specialization or discipline of B.E. / B.Tech. Degree Programme, like Civil Engineering and Information Technology.

1.3 **Course** means a theory or practical subject that is offered in a semester, like Basic Electrical Engineering, Programming for Problem Solving and Engineering Practice Engineering Laboratory.

1.4 **University** means the Affiliating University, i.e. Anna University, Chennai.

1.5 **Head of the Institution** means the Principal of the College.

1.6 **College** means K.S.Rangasamy College of Technology, Tiruchengode, an Autonomous Institution affiliated to Anna University, Chennai and approved by AICTE, New Delhi.

2. PROGRAMME OFFERED

B.E. / B.Tech. (4 Years)

Table 1 Programmes Offered

Sl. No.	Branch Code	Programme	Branch
1	ME	B.E.	Mechanical Engineering
2	EE	B.E.	Electrical and Electronics Engineering
3	EC	B.E.	Electronics and Communication Engineering
4	CS	B.E.	Computer Science and Engineering
5	MC	B.E.	Mechatronics Engineering
6	CE	B.E.	Civil Engineering
7	EI	B.E.	Electronics and Instrumentation Engineering
8	IT	B.Tech.	Information Technology
9	TT	B.Tech.	Textile Technology
10	BT	B.Tech.	Biotechnology
11	NT	B.Tech.	Nano Science & Technology
12	FT	B.Tech.	Food Technology

3. DURATION OF THE PROGRAMME

Semester

The programme will lead to the degree of Bachelor of Engineering (B.E.) / Bachelor of Technology (B.Tech.) of the Anna University and is spread over a period of 4 years. The four academic years will be divided into 8 semesters with 2 semesters per year.

A semester shall normally consist of 90 working days. The Principal shall ensure that every teacher teaches the concepts using the appropriate modes of content delivery and make sure that the students gain knowledge and apply to solve problems.

A HSC student is normally expected to complete the B.E. / B.Tech. Programme in 8 semesters (four academic years) but in any case not more than 14 consecutive semesters (7 years) whereas a Lateral Entry Diploma holder / B.Sc. graduate (10+2+3 stream) with mathematics as one of the courses is normally expected to complete the B.E. / B.Tech. Programme in 6 semesters (three academic years) but in any case not more than 12 consecutive semesters (6 years). These periods are being reckoned from the commencement of the semester to which the candidate was first admitted.

4. ADMISSION CRITERIA

Candidates for admission to the B.E. / B.Tech. degree programme will be required to satisfy the conditions of admission thereto prescribed by the Anna University, Government of Tamil Nadu, AICTE / UGC.

4.1 Candidates seeking admission to the 1st semester of the 8 semester B.E. / B.Tech. degree programmes should have passed the Higher Secondary Examination of (10+2) Curriculum (Academic Stream) prescribed by the Government of Tamil Nadu with Mathematics, Physics and Chemistry as three of the four subjects of study under Part-III or any examination of any other University or authority accepted by the Syndicate of Anna University as equivalent thereto.

OR

Candidates should have passed the Higher Secondary Examination of Vocational stream (Vocational groups in Engineering / Technology) as prescribed by the Government of Tamil Nadu.

OR

Candidates who possess the Diploma in Engineering / Technology awarded by the State Board of Technical Education and Training, Tamil Nadu or its equivalent are eligible to apply for the lateral entry admission to the 3rd semester of B.E. / B.Tech. degree programme as per eligibility norms (Given in Table 2).

OR

The candidates who possess B.Sc. degree (10+2+3 stream) with mathematics as a subject at the B.Sc. level are eligible for admission to the 3rd semester of the B.E. / B.Tech. degree programme through the lateral entry scheme.

4.2 Notwithstanding the qualifying examination the candidate might have passed, the candidate shall also appear for Tamil Nadu Engineering Admissions counselling conducted by Anna University, Chennai.

4.3 The candidate seeking admissions under the management quota should also have passed the qualifying examination as per clause 4.1 and are admitted based on the rank given by the Consortium of Self-Financing Professional, Arts and Science colleges in Tamil Nadu.

4.4 The eligibility criteria regarding marks shall pertain to the norm as prescribed by the State Government / Syndicate of the Anna University / AICTE / UGC from time to time.

Table 2 Eligible Criteria to get admission in to various B.E. / B.Tech. degree programme through lateral entry

Group Code	Group Name	Diploma Branch Code	Qualifying Diploma	Eligible Degree Course
1	Civil	101	Civil Engineering	Civil Engineering
		102	Civil and Rural Engineering	
		103	Civil Engineering (Architecture)	
		104	Architectural Assistantship	
		105	Civil Engineering (Sandwich)	
		106	Architecture (Sandwich)	
		107	Environmental and Pollution Control Engg.	
		108	Civil Engineering (Rural Technology)	
		109	Interior Design	
		110	Architectural Assistantship (Sandwich)	
2	Mechanical	201	Mechanical Engineering	Mechanical Engineering
		202	Mechanical and Rural Engineering	
		203	Mechanical Design & Drafting	Mechatronics Engineering
		204	Production Engineering	
		205	Automobile Engineering	
		206	Metallurgy	
		207	Mechatronics Engineering	
		208	Machine Tool Maintenance and Repairs	
		209	Tool and Die Making	
		210	Tool Engineering	
		211	Foundry Technology	
		212	Refrigeration & Air Conditioning	
		213	Agricultural Engineering	
		214	Marine Engineering	
		215	Mechanical Engineering (Production)	
		216	Mechanical Engineering (Sandwich)	
		217	Foundry Technology (Sandwich)	
		218	Machine Tool Maintenance and Repairs (Sandwich)	
		219	Tool and Die Making (Sandwich)	
		220	Production Technology	

		221	Tool Design	
		222	Mechanical Engineering (Tool & Die)	
		223	Automobile Technology	
		224	Mechanical Engineering (Foundry)	
		225	Agricultural Technology	
		226	Mechanical Engineering(Refrigeration & A.C.)	
		227	Electronics (Robotics)	
		228	Agricultural Engineering and Farm Equipment Technology	
		229	Production Engineering (Sandwich)	
		230	Mechatronics Engineering (Sandwich)	
		231	Electronics (Robotics) (Sandwich)	
	Mechanical	232	Fisheries Technology and Navigation	Mechanical Engineering
		233	Fisheries Technology	
		234	Fisheries Technology and Navigation (Sandwich)	
		235	Fisheries Technology (Sandwich)	
3	Electrical	301	Electrical and Electronics Engineering	Electrical & Electronics Engineering Electronics & Communication Engg. Computer Science and Engineering Information Technology Electronics & Instrumentation Engg.
		302	Electronics and Communication Engg.	
		303	Electronics and Instrumentation Engg.	
		304	Electronics Engineering (Instrumentation)	
		305	Computer Technology	
		306	Instrument Technology	
		307	Computer Science and Engineering	
		308	Instrumentation and Control Engineering	
		309	Electrical Engineering (Instruments and Control)	
		310	Electrical Engineering (Sandwich)	
		311	Information Technology	
		312	Electronics (WSI)	
		313	Electrical Engineering	
		314	Instrumentation Technology	
		315	Computer Engineering	
		316	Computer Networking	
		317	Electrical and Electronics Engg. (Sandwich)	
		318	Electronics (Robotics)	
		319	Electronics (Robotics) (Sandwich)	
		320	Mechatronics Engineering	
		321	Mechatronics Engineering (Sandwich)	
		322	Electronics and Communication Engineering (Sandwich)	
4	Chemical	401	Chemical Technology	Bio Technology Food Technology
		402	Petro Chemical Technology	
		403	Pulp and Paper Technology	
		404	Polymer Technology	
		405	Plastic Engineering	
		406	Sugar Technology	
		407	Ceramic Technology	
		408	Petroleum Engineering	
		409	Plastic Technology	
		410	Plastic Engineering (Sandwich)	
		411	Polymer Technology (Sandwich)	

		412	Chemical Technology (Sandwich)	
		413	Chemical Engineering	
		414	Petro Chemical Engineering	
		415	Pulp and Paper Technology (Sandwich)	
		416	Plastic Technology (Sandwich)	
		417	Ceramic Technology (Sandwich)	
5	Textile	501	Textile Design & Weaving	Textile Technology
		502	Textile Processing	
		503	Textile Engineering	
		504	Textile Marketing & Management	
		505	Textile Technology	
		506	Man-Made Fibre Technology	
		507	Knitting Technology	
		508	Garment Technology	
		509	Textile Design	
		510	Fashion Design & Clothing Technology	
		511	Handloom Technology	
		512	Khadi and Handloom Technology	
		513	Textile Processing (Sandwich)	
		514	Textile Technology (Sandwich)	
		515	Costume Design & Dress Making	
		516	Textile Manufacturing	
		517	Textile Technology (Knitting)	
		518	Fashion Technology	
		519	Apparel Technology	
		520	Applied Arts & Crafts (Fashion and Apparel Design)	
		521	Shuttleless Weaving	
		522	Home Textiles	
		523	Textronics	
		524	Textile Technology (Knitting and Garment Technology)	
6	Nano Science Technology		Mechanical Engineering Chemical Engineering Electrical and Electronics Engineering Electronics and Communications Engineering Ceramic Technology Polymer Technology Mechatronics / Electronics (Robotics)	Nano Science &Technology

Note : The Diploma Courses mentioned under this group is eligible only for Specific B.E. / B.Tech. Degree Courses as mentioned against each Diploma Course.

The Diploma in Plastics Mould Technology (DPMT) awarded by CIPET is eligible for the B.E. Mechanical Engineering and Lateral Entry admission only to the candidates who studied with the Revised Syllabus and Curriculum of July 2010 onwards. Prior to this, the candidates are eligible only for PLASTIC / POLYMER TECHNOLOGY in the Lateral Entry Scheme.

5.   STRUCTURE OF THE PROGRAMME

5.1.   Every Programme shall have a curriculum comprising both theory and laboratory courses with well-defined syllabi as prescribed by the respective Board of Studies from time to time. The courses shall cover

- Humanities and Social Sciences including Management Courses (HSMC)
- Basic Science Courses (BSC)
- Engineering Science Courses (ESC)
- Professional Core Courses (PCC)
- Professional Elective Courses (PEC)
- Open Elective Courses (OE)
- Project Work (PROJ)
- Mandatory Courses (MY)
- Soft Skills Development Courses (SSDC)
- One Credit Courses (OCC)
- Online Courses: SWAYAM – NPTEL / MOOC/ etc.
- Self Study Courses (SSC)
- Industry/ Institution Internship (III)
- Employability Enhancement Courses (EEC)

There shall be a certain minimum number of core courses and sufficient number of elective courses that can be opted by the student. A blend of different courses is designed in all the programmes, so that the students will be trained not only in his / her relevant professional field but also would have been groomed as a socially conscious human being at the end of the programme. Further, every student shall be under go in any one of the personality development programmes such as NCC, NSS, YRC, Yoga and Sports & Games.

5.2   Number of courses per semester

The curriculum of each semester shall normally be a blend of theory courses not exceeding 5/6 and laboratory courses not exceeding 2/3. However, the total number of courses per semester shall not exceed 10/11 (approximately 32/34 credits) which includes employability enhancement courses but excluding mandatory courses / seminars and personality development courses.

5.3   Project Work

The student has to carry out one project work as a part of his/her study in the final year. Project work may be allotted to a single student or to a group of students not exceeding 4 per group.

5.3.1   Normally the project work shall be carried out for a full semester (in 8th semester). In case the student(s) go for an internship during 8th semester, he / she can continue to do the project work in the Industry / Institute but has to follow the evaluation procedure specified by the college.

5.3.2 The project work for B.E. / B.Tech. Programmes consist of Phase-I and Phase-II. The Phase-I is to be undertaken during 7th semester and Phase-II, may be a continuation of Phase-I or a new work is to be undertaken during 8th semester. In case the student(s) go for an internship during 8th semester, he/she can continue to do the project in the Industry / Institute but has to follow the evaluation procedure stipulated by the college.

5.3.3 There shall be three reviews for the project work during 7th and 8th semester.

5.3.4 If a candidate fails to submit the project report on or before the specified deadline, he / she shall meet the HoD and give suitable explanation. On satisfactory explanation he / she shall be allowed to submit the project report before the last working day. Otherwise he/she is deemed to have failed in the project work. If a candidate fails in the Project Work he/she shall reregister for the same in the subsequent semester.

5.3.5 A soft copy of the approved project report shall be kept in the library of the college and in the respective department.

5.4 The medium of instruction, Examinations and Project report shall be English.

6 REQUIREMENTS OF ATTENDANCE AND PROGRESS

6.1 A candidate will be deemed to have completed the requirements of study of any semester and qualify to write the end semester examinations only if

6.1.1 He / she has earned not less than 75 % of attendance on an average in all the courses in that semester put together. However, a candidate who has secured attendance between 65 % and 74 % in the current semester due to medical reasons (hospitalization / accident / specific illness) or due to participation in College / University State / National / International level sports events / Industrial training / Internship with prior permission from the Principal shall be given exemption from the prescribed attendance requirements and he/she shall be permitted to appear for the current semester examinations.

6.1.2 His / her progress has been satisfactory and

6.1.3 His / her character and conduct have been satisfactory.

6.2 Candidates who do not qualify to appear for end semester examinations of any semester for want of attendance and / or progress and / or character and conduct have to register for and repeat that semester at the next available opportunity subject to the approval of Directorate of Technical Education, Tamil Nadu and Anna University Chennai.

6.3 The re-admitted candidates have to follow the curriculum and syllabus as existing at the time of re-admission. The readmission committee will decide the courses that he/she has to undergo in the new curriculum considering the equivalent courses that he/she has gone through in the old curriculum, so as to bridge the curriculum in-force and the old curriculum. The courses recommended by the committee shall be taken under a faculty mentor and appear for the examination as specified by the college.

7. PROCEDURE FOR COMPLETING THE COURSE

7.1 For purposes of these regulations, the academic year will be normally spanning the period from June to May. Each academic year will be divided into 2 semesters, the odd semester normally spanning the period from June to November and the even semester the period from December to May.

7.2 The course work of the odd semesters will ordinarily be conducted only in odd semesters and that of the even semesters only in even semesters. For the benefit of under graduate students going for internship in the 8th semester, theory courses in 8th semester shall be offered during 6th & 7th semester.

7.3 A candidate will be permitted to proceed to the next higher semester only, if he/she has satisfied the requirements of attendance, progress, character and conduct with respect to the preceding semester and had registered for the semester examination for which he / she was eligible to register.

7.4 A candidate who is required to repeat the study of any semester for want of attendance / progress / conduct and who desires to rejoin the course after a period of discontinuance or who upon his / her own request is permitted by the authorities to repeat the study of any semester, may join the semester which he / she is eligible or permitted to rejoin, only at the time of its normal commencement for a regular batch of candidates and subject to the approval from the Directorate of Technical Education, Tamil Nadu and Anna University. No candidate will however be enrolled in more than one semester at any time. In the case of repeaters, the earlier continuous assessment marks will be disregarded.

7.5 A candidate who fails to submit the report on the final semester project (or whose report is not accepted for reasons of incompleteness or other serious deficiencies) within the prescribed date or whose project work and viva voce have been assessed as grade RA can reregister at the beginning of the subsequent semester, repeat the project work and submit the report at the end of that semester and appear for the end semester viva voce examination.

8. CREDIT SYSTEM AND ASSESSMENT

8.1 Credit assignment

Each course is normally assigned a certain number of credits with 1 credit for one lecture period per week, 1 credit for one tutorial per week, 1 credit for 2 period of practical or 2 credits for 4 hours of practical/drawing practices / mini project / design laboratory. Project Work –Phase-I shall be of 4 periods per week with 2 credits and Project Work – Phase-II shall be of 16 periods per week with 8 credits.

8.2 The letter grade and the grade point awarded based on percentage of marks secured by a candidate in individual course shall given in Table 3.

Table 3 Letter Grade and Grade Point

Marks	Letter Grade	Grade Point
91-100	O (Outstanding)	10
81-90	A+ (Excellent)	9
71-80	A (Very Good)	8
61-70	B+ (Good)	7
50-60	B (Average)	6
<50	RA (Reappear)	0
Absent	AB (Absent)	0
Incomplete	I	0
Withdrawal	W	0

"RA"   denotes failure in the course and he/she has to reappear for the end semester examination.

"AB"   denotes absent for the end semester examination and he/she has to reappear for the end semester examination.

"I"   denotes incomplete as per Clause 6 and prevented from writing end semester examination.

"W"   denotes withdrawal from the end semester examination as per clause 11.

After the completion of the programme, the Cumulative Grade Point Average (CGPA) from 1st semester to final semester is calculated using the formula:

$$CGPA = \sum g_i {}_* c_i \, / \sum c_i$$

Where g_i: Grade point secured corresponding to the course
        c_i: Credits allotted to the course

8.3   A candidate will be permitted to appear for the end semester examination of a semester only if he / she has completed the study of that semester (vide Clause 6). A candidate will not be allowed to register for any end semester examination unless he/she simultaneously register for the examinations of the current semester and for all the courses in which he / she has arrears of.

8.4   A candidate who is absent in the end semester examination in a course / project work after having registered for the same shall be considered to have appeared and failed in that course/project work and will be marked AB in the grade sheet.

8.5   The assessment will comprise of continuous assessment and end semester examination carrying marks as specified in Clause 9.

8.6   End semester examinations will normally be conducted during October / November and during April / May of each academic year.

8.7   Continuous assessment marks will be awarded on the basis of continuous assessment made during the semester as per guidelines framed by the college from time to time.

9. SCHEME OF ASSESSMENT

9.1 Theory courses

Two tests shall be conducted during the semester by the department. If a candidate has not appeared in any of the two tests for valid reason after getting prior permission from the class advisor / HoD / Principal, he / she is eligible to write missed tests. An improvement test is conducted for the students those who are interested in improving the internal marks in the respective course(s). The scheme of assessment for theory courses is shown in Table 4.

9.2 Laboratory courses

The maximum marks for assessment shall be 100 for laboratory courses. Every experiment shall be evaluated for 100 marks based on the conduct of experiment, observation and results, inference and viva - voce. The marks obtained from all the experiments shall be reduced to 60. There shall be one model practical examination conducted at the end of the semester. The end semester practical examination shall be conducted for 100 marks and reduced to 40. The total mark is the sum of continuous assessment and model examination marks calculated for a total of 100. The scheme of assessment for laboratory courses is shown in Table 4.

9.3 Theory courses with Laboratory Component

If there is a theory course with laboratory component there shall be three tests – the first two tests (each 60 marks) will be from theory portions and the third test (60 marks) will be from laboratory component. The sum of marks of the first two tests shall be reduced to 20 Marks and the third test mark shall be reduced to 10. The total marks are the sum of the marks obtained for theoretical and practical parts. The scheme of assessment for theory with laboratory component courses is shown in Table 4.

Table 4 Scheme of Assessment

Category of Courses	Continuous Assessment	Attendance	Assignment / Tutorial / Practical Examination	Two Quizzes (Computer based MCQ type)	End Semester
Theory	30 marks	5 marks	5 marks	10 marks	50 marks
Theory with Laboratory	20(T)+10(P)	5 marks	5 marks	10 marks	50 marks
Laboratory	60 marks	-	40 marks	-	-
Procedure for Continuous Assessment of theory course					
Item					**Marks**
Periodical tests (2 Tests–1 ½ hours each)(Each Test – 15 marks)					30
Procedure for Continuous Assessment of theory with laboratory courses					
Periodical tests (2 Tests from theory portion- 1 ½ hours each, Each Test – 10 marks)					20 Marks
1 Test from Laboratory component- 3 hours					10 Marks

Assignments / Tutorials		
Theory Courses	3 Assignments	3 x 50 Marks = 150 Marks. This will be reduced to 05 Marks. Each assignment shall cover the requisite course outcomes, to check the understanding of the concepts and their applications.
Analytical Courses	No. of tutorials as per the time table	The average of marks obtained in all the tutorials and reduced to 5 marks.
Attendance						

% of Attendance	00-75	76-80	81-85	86-90	91-95	96-100
Marks	0	1	2	3	4	5

9.4 Computer Aided Examination and Open Book Examination

Computer aided examinations shall be conducted for programming related subjects for continuous assessment tests and the end semester examination.

Computer aided examinations shall be conducted for analytical subjects on the lines of GATE examination for continuous assessment tests. Computer based Quiz shall be conducted for all courses.

Open book examination shall be conducted for continuous assessment tests and the end semester examination for selected courses as decided by BoS and approved by academic council and the committee consisting of HoD, Programme Coordinator and Module Coordinators.

9.5 Project Work

The Project Work – Phase-I for B.E. / B.Tech. programmes in the 7th semester will be evaluated through continuous assessment. There will be no end semester examination at the end of Phase-I.

The Project Work – Phase-II for B.E. / B.Tech. programmes in the 8th semester may be a continuation of the Project Work – Phase-I or a new work. The Phase-II Project Work will be evaluated by continuous evaluation and end semester viva-voce examination.

Project Work Phase-I shall be evaluated by the project review committee (external or internal). Three reviews shall be conducted with subject expert and the student(s) shall make a presentation on the progress made by him / her / them during the reviews. Student(s) shall submit a project technical report comprising of title, problem statement, importance of work, modifications, proof of concept, methodology and review of literature during the 3rd review. The total marks obtained in the three reviews shall be reduced to 100 marks and rounded to the nearest integer. The schedule will be announced by the Head of the Department.

Project Work Phase – I Evaluation

Review I (R1)	Review II (R2)	Review III (R3)	Internal Mark (R1+R2+R3) /3	End Semester Examination
100	100	100	100	NA

Project Work – Phase-II: The objective of Project Work & Dissertation is to enable the student to extend further investigative a study on the project. Three reviews shall be conducted with subject expert and the student(s) shall make a presentation on the progress made by him / her / them during the reviews. Student(s) shall submit a project technical report comprising of title, problem statement, importance of work, methodology, experimental work and outcome of the work carried out during the 3rd review. The work carried out may be either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a supervisor from the department or jointly with a supervisor drawn from other department / academic institution / R& D laboratory / Industry. This is expected to provide a good training for the students in R& D work and technical leadership.

The project reviews (R1+R2+R3) shall carry a maximum of 50 marks. The project report shall be submitted as per the approved guidelines given by the college, the viva-voce examination shall carry 50 marks. Marks are awarded to each student of the project group based on the individual performance in the viva-voce examination.

Project Work Phase – II Evaluation

Review I (R1)	Review II (R2)	Review III (R3)	Internal (R1+R2+R3)	End Semester Examination Viva-Voce
10	20	20	50	50

Evaluation Procedure for CCD &Mandatory Courses

Career Competency Development (CCD)
This will have Continuous Assessment (CA) and No End Semester (ES) Examination. This includes Aptitude, Verbal Reasoning, Logical Reasoning, Group Discussion, Oral and Written Communication Skills, Technical Paper Presentation, Resume Preparation and Interview Skills.
Grade Ratings for Career Competency Development (CCD) are as follows: Very Good (VG) - 80 to 100; Good (G) - 60 to 79; Fair (F) - 40 to 59; Poor (P) - Below 40.
Mandatory Courses
All students have to study mandatory courses specified by the department / institution. No credits will be given for the mandatory courses. Assessment shall be conducted and grading without credit shall be given in the grade sheet.
Grade Ratings for Mandatory Courses are as follows: Very Good (VG) - 80 to 100; Good (G) - 60 to 79; Fair (F) - 40 to 59; Poor (P) - Below 40.

Internal Marks approved by the Head of the Institution shall be displayed by the respective HoDs within 5 days from the last working day.

10. PASSING REQUIREMENTS AND CLASSIFICATION OF THE DEGREE AWARDED

10.1 A candidate who secures not less than 50% of total marks prescribed for the course (Continuous Assessment + End semester Examination) with a minimum of 50 % of the marks prescribed for the end semester examination, shall be declared to have passed the course and acquired the relevant number of credits.

For laboratory courses, the passing requirement shall be 50% of the total marks secured for regular practical work and a minimum of 50 % of the marks prescribed for the model practical examination and in the case of practicals all candidates should have a minimum 50 % internal marks.

From the 3rd attempt onwards, if a candidate fails to obtain pass mark by adding continuous assessment mark and end semester examination mark, the passing requirement shall be 50 % in the end semester examination only. However, the continuous assessment marks can be taken into consideration, if it is beneficial for the Candidates.

10.2 A candidate shall be declared to have qualified for the award of the B.E./ B.Tech. degree provided the candidate has successfully completed the course requirements and has passed all the prescribed courses of study in all the 8 semesters (6 semesters for lateral entry) within a maximum period of 7 years (6 years for lateral entry) reckoned from the commencement of the semester to which the candidate was first admitted.

10.3 First Class with Distinction

A candidate who qualifies for the award of the degree (vide Clause 10.2) having passed all the courses of study of all the 8 semesters (6 semesters for lateral entry candidates) at the first opportunity within ten consecutive semesters i.e. within (5 years), (eight consecutive semesters for lateral entry candidates i.e. within 4 years) after the commencement of his / her study and securing a **CGPA of 8.50** and above shall be declared to have passed in **First Class with Distinction**. For this purpose the withdrawal from examination (vide Clause 11) will not be construed as an opportunity for appearance in the examination. One year authorized break of study (if availed of) is included in the 5 years (4 years for lateral entry) for award of First Class with Distinction.

10.4 First Class

A candidate who qualifies for the award of the degree (vide clause 10.2) having passed all the courses of study of semesters 1 to 8 within a maximum period of twelve consecutive semesters i.e. 6 years (ten consecutive semesters for lateral entry candidates i.e. 5 years) after commencement of his /her study and securing a **CGPA of 7.0 and above,** shall be declared to have passed in **First Class**. One year authorized break of study (if availed of) or prevention from writing the end semester examination due to lack of attendance (if applicable) is included in the 6 years (5 years for lateral entry) for award of First Class.

10.5 Second Class

All other candidates (not covered in clauses 10.3 & 10.4) who qualify for the award of the degree shall be declared to have passed in **Second Class.**

11. WITHDRAWAL FROM THE EXAMINATION

11.1 A candidate may, for valid reasons, be granted permission to withdraw from appearing for the semester examination in any course or courses for one time during the entire duration of the degree programme. Also, only ONE application for withdrawal is permitted for that semester examination in which withdrawal is sought.

11.2 Withdrawal application shall be valid only if the candidate is otherwise eligible to write the examination and if it is made prior to the commencement of the examination in that course or courses in normal circumstances and also recommended by the head of the department and approved by the principal.

11.3 Applications for withdrawal for special cases under extraordinary conditions will be considered after the commencement of examination on the merit of case subject to the approval of Head of the Department and the Principal.

11.4 In case of withdrawal from a course / courses the course will figure both in Grade Sheet as well as in Result Sheet. Withdrawal essentially requires the student to register for the course/courses.

11.5 Withdrawal is permitted for the end semester examinations in the final semester only, if the period of study of the student concerned does not exceed 5 years as per clause 10.3.

11.6 Withdrawal shall not be construed as an opportunity for appearance in the examination for the eligibility of a candidate for classification.

12. SUPPLEMENTARY EXAMINATION

A special supplementary examination is conducted for immediate passed out students of all B.E. / B.Tech. programmes.

- Students having less than or equal to 3 arrear courses in the final year (7th & 8th semester put together)are only permitted to register.
- Revaluation is also permitted for the supplementary examination.
- Those who availed this opportunity are also permitted to register for the subsequent NOV. / DEC. examination.

13. PERSONALITY AND CHARACTER DEVELOPMENT

Students shall enroll, on admission, in any one of the personality and character development activities (the NCC / NSS / YRC / Yoga / Sports & Games) and undergo training. Every student shall put up minimum of 75% attendance in the training and attend the camp compulsorily. A Satisfactory / Not Satisfactory grading will appear in the mark sheet.

- **National Cadet Corps (NCC)** will have parades. While the training activities will normally be during weekends, the camps will normally be during holidays.
- **National Service Scheme (NSS)** will have social service activities in and around the College.
- **Youth Red Cross (YRC)** society activities will include peace time activities like health & hygiene, international friendship, awareness camps etc.

- **Sports& Games** activities will include preparation for inter-collegiate sports events.
- **Yoga** activity is intended for tuning the students mentally and physically.

14. FACULTY ADVISOR

To help students in planning their courses of study and for general advice on the academic programme, the Head of the Department will attach about 30 students to a faculty member of the Department who shall function as faculty advisor for those students.

Such faculty advisor shall advise the students and monitor the courses undergone by the students, check the attendance and progress of the students attached to him / her and counsel them periodically. If necessary, the faculty advisor may also discuss with or inform to the parents about the progress of the students through the Head of the Department concerned**.**

15. CLASS COMMITTEE

15.1 Every class shall have a class committee consisting of student representatives, designated faculty members and a chairperson who is not teaching the class. It is like the 'Quality Circle' (more commonly used in industries) with the overall goal of improving the teaching-learning process. The functions of the class committee include,

- Solving problems experienced by students in the class room and in the laboratories.
- Clarifying the regulations of the degree programme and the details of rules therein.
- Informing the student representatives the academic schedule including the dates of assessments and the syllabus coverage for each assessment.
- Informing the student representatives the details of Regulations regarding weightage used for each assessment. In the case of practical courses (laboratory / drawing / project work / seminar etc.) the breakup of marks for each experiment / mini projects / exercise / module of work, should be clearly discussed in the class committee meeting and informed to the students.
- Analyzing the performance of the students of the class after each test and finding the ways and means to improve learning and performance.
- Identifying the weak students, if any, and requesting the teachers concerned to provide additional help or guidance or coaching to such weak students.

15.2 The class committee for a class under a particular branch is normally constituted by the head of the department.

15.3 The class committee shall be constituted in the first week of every semester.

15.4 At least 6 student representatives (usually 3 boys and 3 girls) shall be included in the class committee.

15.5 The chairperson of the class committee may invite the faculty advisor(s) and the Head of the department to the meeting of the class committee.

15.6 The Principal may participate in the class committee.

15.7 The chairperson (HoD / Senior Faculty) is required to prepare the minutes of every meeting, submit the same to the Principal within two days of the meeting and arrange

to circulate among the concerned students and teachers. If there are some points in the minutes requiring action by the management, the same shall be brought to the notice of the management by the Head of the Institution.

15.8 The first meeting of the class committee shall be held within one week from the date of commencement of the semester, in order to inform the students about the nature and weightage of assessments within the framework of the Regulations. Two or three subsequent meetings may be held in a semester at suitable intervals. During these meetings the student members can express their opinions and suggestions of the other students of the class to improve the effectiveness of the teaching-learning process.

16.   COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one section or more than one discipline or group, shall have a "Course Committee" comprising all the teachers teaching the common course with one of them nominated as course coordinator / module coordinator. The nomination of the course coordinator shall be made by the Head of the Department / Principal depending upon whether all the teachers teaching the common course belong to a single department or to several departments. The 'Course Committee' shall meet often and ensure uniform evaluation of the tests and arrive at a common scheme of evaluation for the tests. Where it is feasible, the course committee may also prepare a common question paper for the test(s).

17.   ISSUE OF GRADE SHEET &DEGREE CERTIFICATE

After the publication of the results by the college in each semester, the college will issue the grade statements. After successful completion of the programme, the college will recommend the candidate to the University, which in turn shall issue the Provisional certificate and award the degree.

18.   DISCIPLINE

Every student is required to observe discipline and decorous behaviour both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the College and the University. The Principal shall constitute a disciplinary committee consisting of Heads of Departments, two faculty members of which one should be a class advisor of the student, to enquire into acts of indiscipline and report to the Principal.

If a student indulges in malpractice in any of the end semester / Internal examination he / she shall be liable for punitive action as prescribed by the University and College from time to time.

19.   INDUSTRIAL VISIT

Every student is required to undergo Industrial visits, starting from the 3rd semester of the programme.

20. AUTHORIZED BREAK OF STUDY

20.1 A student may be permitted to go on a break of study for a maximum period of one year as a single spell.

20.2 Break of study shall be granted only for valid reasons for a maximum of one year during the entire period of study of the degree programme. However, in extraordinary situations, the candidate may apply for additional break of study not exceeding another one year by paying the prescribed fee for the break of study.

20.3 If a candidate intends to temporarily discontinue the programme in the middle of the semester for valid reasons, and to rejoin the programme in a subsequent year, permission may be granted based on the merits of the case provided that he / she applies to the Principal through the Head of the Department in advance, but not later than the last working day of the semester in question stating the reasons thereof and the probable date of rejoining the programme.

20.4 The candidates permitted to rejoin the programme after a break of study / prevention due to lack of attendance, shall be governed by the curriculum and regulations in force at the time of rejoining. The students rejoining in a new Regulation shall apply to the Principal in the prescribed format through the Head of the department before the commencement of the readmitted semester itself for prescribing additional courses, if any, from any semester of the regulations in-force, so as to bridge the curriculum in force and the old curriculum.

20.5 The period of the authorized break of study would not be counted towards the duration specified for passing all the courses for the purpose of classification vide clause 10.2.

20.6 The total period for the completion of the programme, when reckoned from, the 1st day of commencement of the 1st semester to which the candidate was admitted shall not exceed the maximum period specified in clause 10.2. irrespective of the period of break of study in order that he / she may be eligible for the award of the degree.

21. CHOICE BASED CREDIT SYSTEM (CBCS)

Under CBCS, the students have the following flexibility:
   i.   Flexibility to add or drop the courses
   ii.   Open elective courses
   iii. Self study courses / Online courses
   iv.   One credit courses
   v.   Redoing of course(s)
   vi.   Credit for Industrial Training / Internship
   vii. Credits and grades for NPTEL/QEEE/NMEICT/SWAYAM online courses
   viii. Swapping of Courses
   ix.   Swachh Bharat Summer Internship
   x.   Course waiver

21.1 Flexibility to add or drop the courses

Students shall earn the total number of credits specified in the curriculum of the respective programme of study in order to be eligible to obtain the degree. However, students can be permitted to earn more than the total number of credits prescribed in the curriculum by opting for additional professional courses, open electives, self study courses, one credit courses and on-line courses. Students shall be permitted to register for one or two additional courses in a semester, however, the additional credit shall not be taken in to account for the calculation of overall CGPA.

Students can be permitted to drop one or two courses in a semester from 3rd to 7th for B.E. / B.Tech. programmes. Students shall register for the dropped courses in the subsequent semesters. Such students shall complete all the courses and earn the total credits prescribed for the programme within the stipulated duration(vide Clause 10). Dropped courses, when registered again, shall not be considered as an attempt for the purpose of classification in that semester. The dropped course should not be a prerequisite for the courses in the subsequent semesters.

21.2 Open Elective Courses

Students shall be permitted to register for the open elective courses offered by other / within the departments. Choice of courses for electives may also be opted from Open Electives.

21.3 Self Study Courses / Online Courses

Students shall be permitted to register for one self study course under a faculty mentor in a semester provided that they do not have any standing arrears and should have completed all the dropped courses. The students who opt for dropping of courses are not permitted to pursue self study courses in that particular semester. Study materials prepared by the faculty mentor shall be posted in moodle (free open source learning platform).No formal lectures need to be delivered. However, the faculty mentor shall monitor the progress of the students on a weekly basis. Students shall write assignments / tutorials and appear for continuous assessment and end semester examinations to earn the credit. Students shall meet the faculty mentor once in a week.

Students shall be permitted to register for on-line courses available in NPTEL / SWAYAM / NMEICT / any other universities / agencies approved by the regulatory bodies as self study courses under a faculty mentor. Upon successful completion of the course and passing in the exam conducted by NPTEL / NMEICT / any other universities / agencies approved by the regulatory bodies, suitable credits shall be given after due approval from the committee consisting of Head of the Department, programme coordinator, module coordinator / class advisor and course coordinator in consultation with the Principal.

Students can opt for self study courses from the 4thsemester onwards. The self study courses shall be approved by the committee consisting of HoD, programme coordinator and module coordinators.

Students shall register for online / self study courses through the Head of the Department.

Two week courses offered under Global Initiative of Academic Networks (GIAN) programme of MHRD can be considered instead of electives.

21.4 One Credit Courses

Students shall be allowed to take courses offered by Industry experts or courses conducted by NPTEL / SWAYAM / NMEICT / QEEE for 15-20 hrs of duration and the same shall be considered as one credit courses. A maximum of one 3 credit elective course can be waived either in 7th or 8th semester, on successful completion and passing the examination in 3 or more one credit courses. Suitable credits shall be given after due approval of committee consisting of Head of the Department, programme coordinator, module coordinators and course coordinators in consultation with the Principal.

21.5 Redoing of Course(s)

If a student fails to secure a pass in theory course(s) or theory with laboratory component course(s), the student shall be permitted to improve the internal marks by writing the continuous assessment tests after getting permission, in writing, from the head of the department in consultation with faculty mentor(s) in the immediate subsequent semester(s) and appear for the ensuing end semester examination.

If a student fails in laboratory courses, he / she shall be permitted to improve the continuous assessment marks and appear for the model examination in the subsequent semester(s).

In case the failed course is the soft core, professional electives or an open elective, the candidate may opt for the same course or a different course. If he/ she opts for a different course shall attend the classes, fulfill the attendance requirements as per clause 6 and earn continuous assessment marks as per clause 9 and appear for the ensuing end semester examination.

21.6 Credit for Industrial Training / Internship / Online Courses

Credits shall be given for students undergoing internship/doing projects in relevant industry as given below:

Duration of Training /Internship	Credits
2 Weeks	1
4 Weeks	2
6 Weeks & above	3

- Students undergoing 6/8 weeks of training /doing projects in industry / academic institutions of repute shall be given 3 credits and one elective course in 7thor 8thsemester shall be waived.

- Students, pursuing courses around125 hours or more, of intensive skill based training courses, offered in collaboration with industries shall be given six credits and two elective courses shall be waived.
- The evaluation shall be carried out based on the assessment by the industry / academic mentor (60%), report (20%) and viva – voce examination (20%).
- The viva – voce examination will be conducted internally by a three member committee constituted by the HoD in consultation with the Principal.

21.7 Credits and grades for NPTEL / QEEE / NMEICT / SWAYAM online courses

- Students can register for online courses offered by NPTEL / QEEE / NMEICT / SWAYAM or any other courses offered by reputed national/ international universities, under the guidance of a faculty mentor.
- Students can register for online courses only with the permission of the Head of the Department, otherwise the credits will not be considered for grading in the grade sheet.
- Online courses shall be taken under the guidance of a faculty mentor.
- Credits shall be given to the students who have passed the online courses offered by NPTEL / SWAYAM / QEEE or any other reputed national / foreign universities/institutions, recognized by the regulatory bodies. Upon successful completion of 40-45 hours of full course, the equivalent course in the curriculum shall be waived.
- Students also shall have the opportunity to have credits earned through these courses as additional credits, and not included for the calculation of CGPA.
- In case, the students do not opt for the examination or do not pass in the examination conducted by NPTEL / SWAYAM / QEEE or any other reputed universities/institutions, recognized by the regulatory bodies, a portion of assignments and tutorial marks obtained through the online courses shall be added to the internal marks of the equivalent course and they have to register and write the end semester examination and pass the equivalent course to earn the required credits. The HoD will identify equivalent course and inform to the students.

21.8 Swachh Bharat Summer Internship

The 100 hour experiential internship program would require the candidate to visit one or more villages and conduct activities of their choice to contribute to the cause of rural sanitation in India. Two extra credits shall be given to the students undergoing Swachh Bharat Summer Internship (Not consider for CGPA).

21.9 Swapping of Courses

Students aspiring for "Project Internship" in industry or research organizations during 8th semester can swap their 8th semester courses during 6th and 7th semester provided they have no standing arrears and have earned a minimum CGPA of 7.5till then.

21.10 Course waiver

Students are permitted to opt for course waiver for one credit courses as per clause 21.4, Industrial Training / Internship / Online courses as per clause 21.6 & 21.7 and Swachh Bharat summer Internship as per clause 21.8.

22. Guidelines for Visually Impaired & Orthopedically Challenged Candidates using Scribe

Those candidates who are blind / low vision or affected by cerebral palsy with loco-motor impairment whose writing speed is affected and Physically Handicapped (PH) candidates who are not in a position to write in their own hand-writing can request for a scribe during the examination. Compensatory time and facility of scribe would not be provided to other Physically Handicapped candidates. In all such cases where a scribe is to be used, the following rules will apply:

- The candidate should ensure that he/she is eligible to use a scribe as per the rules governing for attempting examinations by individuals with disabilities as mentioned above. The scribe can be from any academic stream, but not relevant to the branch of study of the candidate.
- Both, the candidate as well as the scribe will have to give a suitable undertaking, in the prescribed format with passport size photograph of the scribe, confirming that the scribe fulfills the stipulated eligibility criteria as mentioned above. Further, in case if later transpires that he/she did not fulfill any of the laid-down eligibility criteria or suppressed material facts, the candidature of the applicant will stand cancelled, irrespective of the result of the examination.

Procedure to be followed:

1. The candidate should send a separate application along with the DECLARATION form as given in the Annexure-III duly completed to the Principal about such requirement and obtain permission at least 30 days before the commencement of the examination.
2. Attested copy of the certificate issued by a competent authority in respect of the disability of the candidate as mentioned above is to be attached with the above DECLARATION.
3. The Principal / Controller of Examinations will scrutinize such applications and if found in order return the DECLARATION form duly endorsing the permission granted to the candidate for the use of the scribe.
4. The Principal shall inform the concerned HoD / Chief Superintendent of examination and also request them to make separate seating arrangement so as not to cause any disturbance to other regular candidates.
5. The candidate will have to produce the DECLARATION (duly endorsed by the Principal and the CoE) along with hall ticket in the examination hall.

23. REVISION OF REGULATION AND CURRICULUM

The College may from time to time revise, amend or change the Regulations, scheme of examinations and syllabi if found necessary, through the approval of BoS and Academic Council of the College.

PRINCIPAL

K.S. Rangasamy College of Technology Tiruchengode – 637215
<u>NPTEL Course Grading System</u>

The Algorithm for Grading marks scored in NPTEL online Courses:

1. The marks scored by each student in a course is registered (x_i)

2. The Total Number of students passed in the course (N)

3. Average / Mean is calculated using the formula

$$\text{Mean } (\mu) = \frac{\text{Total marks of all students}}{\text{No. of students (N)}}$$

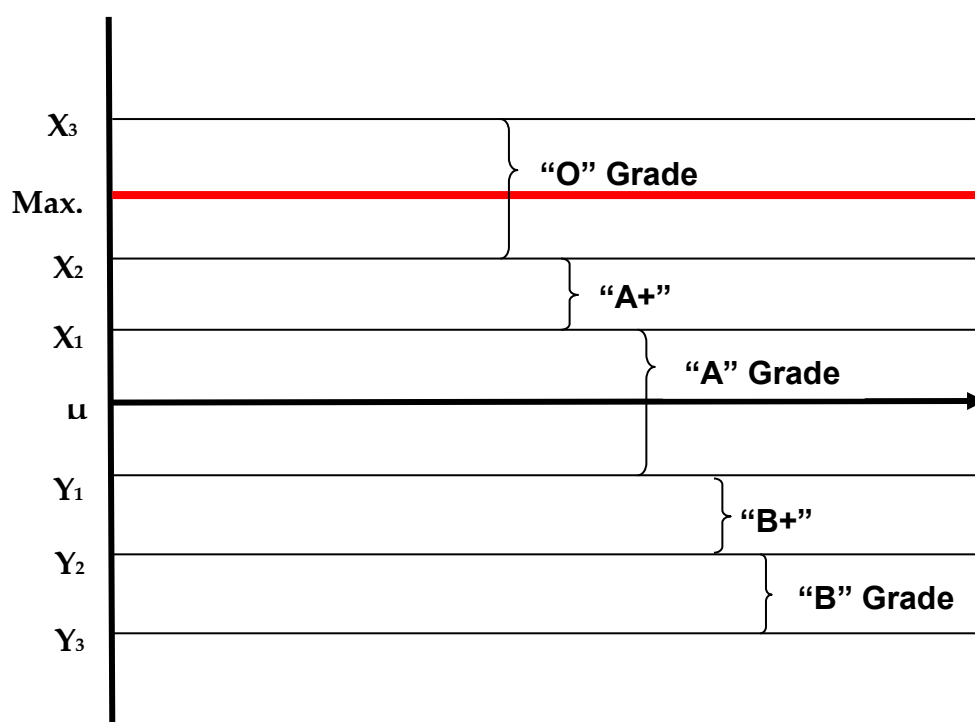4. The standard Deviation (σ) = $\sqrt{\dfrac{\sum\limits_{i=1}^{N} (x_i - \mu)^2}{N - 1}}$

5. The grading intervals are calculated using the formula

$$x_i = \mu + i\,\frac{\sigma}{2}$$

$$y_i = \mu - i\,\frac{\sigma}{2}$$

Where i = 1, 3, 5 …….

6. Based on the marks scored and the value of x_i, the ranges of marks for a particular grade is fixed.

K.S.Rangasamy College of Technology
KSR Kalvi Nagar, Thokkavadi, Tiruchengode-637215.TamilNadu, India.

Student Intern Performance Review/Employer assessment of Intern Form

We appreciate your contribution to the professional growth and development of our students. In order for us to best assess the experience, we request you to complete this form and return it to us at the end of the internship period. We believe that your comments will help the student to build his career.

Student Information

Intern's Name		Department	
Semester		Type: Paid/unpaid	
Dates of Internship		Pay	

Please rate the intern in each area using the following criteria:
0 – Not Applicable; 1 – Not acceptable; 2 – Needs improvement; 3 – Meets Requirements; 4 – Above Average; 5 – Exceptional

1. **Responsibility and Reliability**

   Meets attendance and punctuality expectations; completes assigned tasks in time; keeps commitments and takes responsibility for own actions.

2. **Initiative and self reliance**

   Consistently demonstrates proactive nature takes independent action and calculated risks; knows when to seek prior approval

3. **Communication & cooperation**

   Exhibits good listening and comprehension; Interacts well with others and resolves conflicts

4. **Technical knowledge and competency**

   Competent in required job skills and knowledge; exhibits ability to learn and apply new skills; requires minimal supervision ability to apply creative solutions to problems

5. **Quality of work**

   Demonstrates accuracy and thoroughness; work reflects compliance to standards, commitment to excellence and attention to detail; strives to increase productivity

6. **Professional judgment and decision making**

   Accepts criticism and constructive feedback applies skills appropriate for carrying tasks and solving problems; makes sound decisions.

OVERALL EVALUATION

What would you grade this student?

A-excellent; B-good; C-average; D-poor

□

Please give in written form your assessment of the student's performance.

Is the student better prepared for the industry? What is the possibility of being hired as a permanent employee in your concern?

What is your suggestion for improvement of the intern?

Employer Information

Name and Signature of the Reviewer	
Designation & email	
Name of the Company	
Address	
Date of Evaluation	

DECLARATION

(To be submitted to Controller of Examinations after getting permission from the HoD and the Principal, 30 days before the examination for the purpose of endorsement and to be produced along with Hall ticket to the HoD and Chief Superintendent of examination)

We, the undersigned, Shri / Smt _____eligible candidate for the _____Examination to be held during _____ at the Department / Hall No. _____and Shri/Smt._____ eligible scribe (writer) for the candidate, do hereby declare that :

a) The scribe is identified by the Principal / CoE.

b) The scribe can be from any department, but not relevant to the branch of study of the candidate.

c) The candidate is blind/low vision or affected by cerebral palsy with loco-motor impairment and his/her writing speed is affected or Physically Handicapped (PH) candidates who are not in a position to write in their own hand-writing(strikeout whichever is not applicable) he/she needs a writer (scribe) as permissible under the rules governing for Persons with Disabilities for writing of examinations and attested copy of the Certificate issued in this regard by a competent authority is enclosed.

We hereby declare that all the above statements made by us are true and correct to the best of our knowledge and belief. We also understand that in case it is found at any stage that we do not fulfill the eligibility norms and/or that the information furnished by us is incorrect/false or that we have suppressed any material fact(s), the candidature of the applicant will stand cancelled, irrespective of the result of the Examination(s).

Given under our signature:-

Signature of the Scribe   :   **Signature of the Candidate:**
Name & Address   :   **Register No.:**
Educational Qualification: **Name & Department:**
Employment Details, if any: **Year & Semester:**
Phone No.:   **Phone No.:**

Photo of the Scribe
to be affixed here
and signed across by
the scribe

Controller of Examinations   **PRINCIPAL**