DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

CIRCULAR NO.ACAD/NP/B.Voc.+M.Voc./Syllabus/SEM.-I/24/2013

It is hereby notified for information of all concerned that, on the recommendation of the **Ad-hoc Board of Centre for Vocational Education and Training, B.Voc.+M.Voc Science Courses** under the Faculty of Science, the Hon'ble Vice-Chancellor has accepted the ***"Course Structure and Syllabus of B.Voc.+M.Voc. Semester-I, Choice Based Credit System, Five Year Integrated Degree Course run at University Campus"*** on behalf of the **Academic Council Under Section-14(7) of the Maharashtra Universities Act, 1994** *as appended herewith.*

This is effective from the **Academic Year 2013-2014** and onwards.

All concerned are requested to note the contents of this circular and bring the notice to the students, teachers and staff for their information and necessary action.

University Campus,
Aurangabad-431 004.
REF.NO.ACAD/NP/B.VOC.+M.VOC./
Sem-I/Syllabus/2013/29513-22

Date:- 12-08-2013.

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Director,
*Board of College and
University Development.*

Copy forwarded with compliments to :-

1] **Dr. M.D. Sirsath, Director, Centre for Vocational Education and Training B.Voc.+M.Voc Science Courses, Department of Physics, Dr. Babasaheb Ambedkar Marathwada University.**

Copy to :-

1] The Controller of Examinations,
2] The Superintendent, [B.Sc. Unit],
   The Superintendent, [M.Sc. Unit],
3] The Superintendent, [Eligibility Unit],
4] The Programmer [Computer Unit-1] Examinations,
5] The Programmer [Computer Unit-2] Examinations,
6] The Director, [E-Suvidha Kendra], in-front of Registrar's Quarter,
   Dr. Babasaheb Ambedkar Marathwada University,
7] The Public Relation Officer,
8] The Record Keeper,

Dr. Babasaheb Ambedkar Marathwada University.

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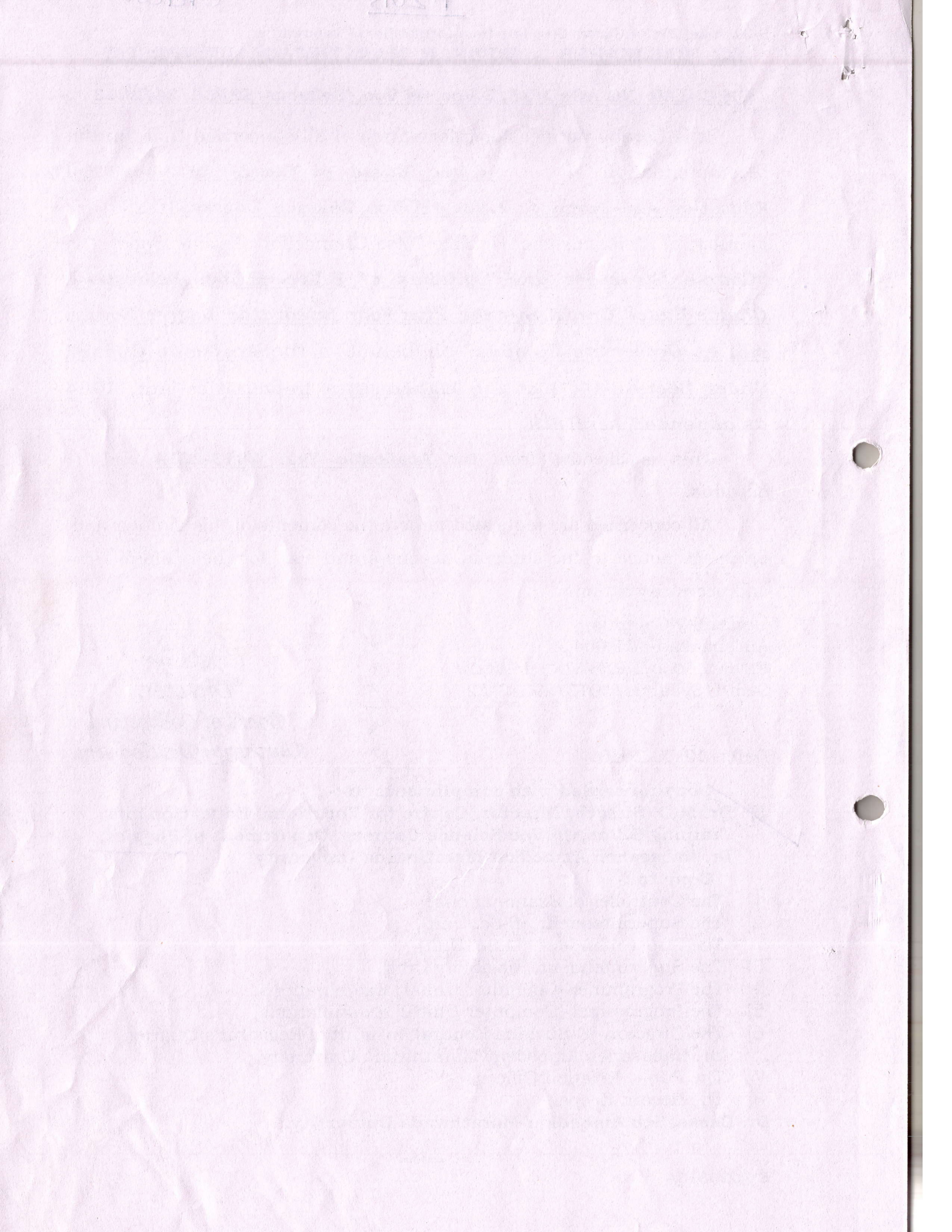
Dr. Babasaheb Ambedkar Marathwada University
Aurangabad- 431004 (MS) India

Center for Vocational Education and Training

Course Structure and Curriculum (Syllabus)

For

Five Year Integrated Programme in Vocational Science (B.Voc. + M. Voc.)

(Choice Based Credit System)

(Academic Autonomy)
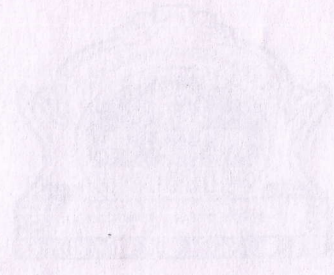
(Effective from June 2013 onwards)

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Curriculum for Five Year Integrated Programme in Vocational Science (B.Voc. + M. Voc.)

(Choice Based Credit System)

This five year integrated (B. Voc. + M. Voc.) programme is divided into ten semesters having 260 credits. Each semester will have eight courses, out of which five to six courses will be dedicated for theory (each theory course will have inbuilt practical / tutorial/ vocational component) and two courses will be devoted to Laboratory Work / Project / Industrial Training. Moreover, semester VIII and X will be dedicated to Industrial Training / Major Project. This programme offers following traditional / academic component viz Linguistic Proficiency, Social Science, Science, Mathematics, Computer Science, Environmental Science, Commerce & Management Science and following vocational components viz Industrial Automation, Automobile, Pharma, Information and communication Technology, Travel and Tourism, Finance, banking and Insurance. However, only two courses are being commenced from this academic year and remaining courses may be commenced from next academic year.

Preamble:

Dr. Babasaheb Ambedkar Marathwada University (BAMU) proposes to offer a five year integrated programme in Vocational Science (B. Voc. + M. Voc.). The curriculum design of this program is undertaken in the following framework (assumptions).

a) Although there has been remarkable progress in all sectors of education in last couple of decades, the less regulated area of the education sector - vocational training— seems to have lost its significance / importance. This has led to the widening gap between the supply and demand for skilled manpower across various industries and R & D organizations. This shortage of skills has translated directly into unemployment among an increasing number of graduates who pass out every year and are forced to be re-trained in order to become marketable.

This programme is designed to produce a skilled manpower so that wide variety of options in automobiles, pharmaceutical, industrial automation, finance, banking and insurance and travel & tourism would be available

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and it will improve the opportunities for the unemployed youths in the country in both the private and public sectors.

b) According to a recent study conducted by the Associated Chambers of Commerce and Industry of India (ASSOCHAM), there will be a deficit of 40 million working professionals by the year 2020 and the employers would face the difficulty of filling positions because of the dearth of suitable talent and skilled personal in their industry. This programme aims provide some solution for this problem and this would facilitate to improve:

    (i)   Quality of training
    (ii)   High drop -out rates
    (iii) Linkages with Universities and industry
    (iv) Inadequacy of resources.

c) This programme is intended to offer practical training and skills needed to pursue an occupation straightaway. It will provide options to the students to select the courses of their choice which are directly aligned to land a job in a chosen profession or a skilled trade. The end result of this programme is to enable an individual to attain self-employment.

Program Outcomes:

Vocational Education is education that prepares the students for specific trades, crafts and careers at various levels. It trains the students from a trade, a craft, technician, to a professional position in R & D organizations.

The Program Outcomes are the skills and knowledge which the students have at each exit level / at the time of graduation or post graduation. These Outcomes are generic and are common to all exit levels mentioned in the programme structure.

   i.   Candidates with vocational training can find work in several state and central government organizations, non-profit groups, academic institutions and in private sectors

   ii. This programme prepares pupils for specific types of occupations and frequently for direct entry into the labour market.

   iii. Candidates with strong vocational education background, also opt for teaching profession in the polytechnic and engineering colleges and vocational training institutes which match the government job scales.

   iv. After completion of this programme students will have enough competences, to benefit from labour market opportunities.

v. This programme would enable students to update their knowledge and professional skills for entering the workforce executing income generating activities or occupying better positions;

vi. At each exit level of the integrated programme students will be able to

a) Apply knowledge of traditional / academic subjects (viz. social science, mathematics, science, environmental science, computer science, commerce and management science) and vocational subject fundamental and vocational specialization to the conceptualization of engineering models.

b) Identify, formulate, research literature and solve complex engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.

c) Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

d) Conduct investigations of complex problems including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

e) Create, select and apply appropriate techniques, resources, and modern engineering tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

f) Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

g) Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

h) Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to science and engineering practice.

i) Understand and commit to professional ethics and responsibilities and norms of science and engineering practice.

j) Understand the impact of science and engineering solutions in a societal context and demonstrate knowledge of and need for sustainable development.

k) Demonstrate a knowledge and understanding of management and business practices, such as risk and change management, and understand their limitations.

l) Recognize the need for, and have the ability to engage in independent and life- long learning.

Exit Options:

The course allows exit of a student from the course on successful employment. Scopes will be there for further continuation of study. The other wise exit options will be as follows-

Exit Point	Duration	Diploma / Degree to be Offered
First exit	After 2 yrs	Diploma in Vocational Science (D. Voc.)
Second exit	After 3 yrs.	Bachelor Degree in Vocational Science B. Voc.
Third exit	After 4 yrs.	Bachelor Degree in Vocational Science (B. Voc.) and P. G. Dip. Voc. Education (PG D. Voc.)
Fourth exit	After 5 yrs	Bachelor Degree in Vocational Science (B. Voc.) and Master Degree in Vocational Science (M. Voc.)

Note : After taking exit student can re-enter into the system at any time. However, he/she has to complete M. Voc. within 10 years from his / her first enrolment in the system.

Eligibility:

Automobile, Industrial Automation, Information & Communication Technology

Those who have completed XII with Physics, Chemistry and Mathematics OR equivalent from any recognized Board / Institution are eligible for registration / admission.

Pharmaceutical :

Those who have completed XII with Physics, Chemistry and Biology OR equivalent from any recognized Board / Institution are eligible for registration / admission.

Travel Tourism and Banking Finance & Insurance:

Those who have completed XII Arts / Commerce / Science OR equivalent from any recognized Board / Institution are eligible for registration.

Admission / Promotion Process:

In response to the advertisement for registration, interested students will have to register themselves. Admission will be done on the basis of performance of students at Common Entrance Test (CET) and personal interviews. The CET will be conducted in the month of June every year. Once the student is admitted he / she will be promoted to the next semester with full carry on, however students have to

register themselves for every consecutive semester. Dropout students will be allowed to register for respective semester as and when the concerned courses are offered by the centre, however he / she should not exceed more than twice the duration of the course from the date of first registration at the centre. The admission of the concern student will be automatically cancelled if he / she fail to complete the course within a period of maximum ten years / 20 semesters.

Choice Based Credit System CDCS) .

The choice based credit system is going to be adopted by this centre. This provides flexibility to make the system more responsive to the changing needs of our students, the professionals and society. It gives greater freedom to students to determine their own pace of study. The credit based system also facilitates the transfer of credits.

- Students will have to earn 104 credits for the award of two year diploma.
- Students will have to earn 156 credits for the award of B. Voc. Degree.
- Students will have to earn 208 credits for the award of B.Voc. + One Year PG Diploma.
- Students will have to earn 260 credits for the award of B. Voc. + M. Voc. degree

Credit-to- contact hour Mapping:

One contact hour per week is assigned 1 credit for theory and 0.5 credits for practical / laboratory course. Thus a 4 - credit theory course corresponds to 4 contact hours per week.

Attendance:

Since the Centre adopting continuous assessment pattern 100 % of attendance is mandatory. Monthly attendance of the students for each course will be displayed on the notice board.

Departmental Committee:

The Departmental Committee (DC) of the Centre will monitor the smooth functioning of the programme.

Results Grievances / Redressal Committee

Grievances / redressal committee will be constituted in the centre to solve all grievances relating to the evaluation. The committee shall consist of Director of the centre and the teacher concerned of a particular course.

Continuous Assessment, Earning of Credits and Award of Grades

The evaluation of the candidate shall be based on continuous assessment. The method evaluation is as follows:

1. Assessment and evaluation processes will be in a continuous mode. However, for reporting purposes, every theory course is divided into 5 modules and each module will carry 20 marks.

2. The performance of the students for respective module will be evaluated by the teacher concerned once the teaching of the module is finished.

3. The teacher concerned teaching the respective module will evaluate the performance of the students for 20 marks. This will be based on test, assignment / tutorials, and seminar.

4. The teacher concerned will submit the assessment sheet of all the students to the Director of the Centre.

5. The performance of a candidate in a course will be assessed for a maximum of 100 marks (20 marks per module / addition of marks of all 5 modules).

6. The examination for Practical work/ Field work/Project work will be conducted by the teacher concerned. Two Practical examinations (50 marks each) will be conducted in a semester.

7. At the end of each semester the Departmental Committee will assign grades to the students. The result sheet will be prepared in duplicate.

8. Every student shall have the right to scrutinize answer scripts of each test and seek clarifications from the teacher concerned regarding evaluation of the scripts immediately.

9. The Director of the Centre shall display the grade points and grades for the notice of the students.

10. The Director of the Centre shall send all records of evaluation for safekeeping to the Controller of Examination in two week time after declaration of results.

Earning Credits:

At the end of every semester, a letter grade will be awarded in each course for which a student had registered. A student's performance will be measured by the number of credits that he/she earned by the weighted Grade Point Average (GPA). The SGPA (Semester Grade Point Average) will be awarded after completion of respective semester and the CGPA (Cumulative Grade Point Average) will be awarded at exit point.

Grading System:

• The grading reflects a student-own proficiency in the course. A ten point rating scale shall be used for the evaluation of the performance of the students to provide letter grade for each course and overall grade for the Master Programme. Grade points are based on the total number of marks obtained by him / her in all heads of the examination of the course. The grade points and their equivalent range of marks are shown in Table-I

Table – I : Ten point grade and grade description

Sr No	Marks Obtained (%)	Grade Point	Grade	Description
1	90-100	9.00- 10	O	Outstanding
2	80-89	8.00-8.90	A^{++}	Excellent
3	70-79	7.00-7.90	A$^+$	Exceptional
4	60-69	6.00-6.90	A	Very Good
5	55-59	5.50-5.90	B$^+$	Good
6	50 54	5.00-5.40	B	Fair
7	45-49	4.50-4.90	C$^+$	Average
8	41-44	4.1-4.40	C	Below Average
9	40	4.0	D	Pass
10	< 40	0.0	F	Fail (Unsatisfactory

- Non appearance in any examination / assessment shall be treated as the students have secured zero marks in that subject examination / assessment.
- Minimum D grade (4.00 grade points) shall be the limit to clear / pass the course / subject. A student with F grade will be considered as "failed" in the concerned course and he / she has to clear the course by appearing in the next successive semester examinations. There will be no revaluation or recounting under this system.
- Every student shall be awarded grade points out of maximum 10 points in each subject (based on 10 point scale). Based on the grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) shall be computed. Results will be announced at the end of each semester and CGPA will be given at respective exit point.

Computation of SGPA (Semester Grade Point Average) and CGPA (Cumulative Grade Point Average)

Grade in each subject / course will be calculated based on the summation of marks obtained in all five modules.

The computation of SGPA and CGPA will be as below

- Semester Grade Point Average (SGPA) is the weighted average points obtained by the students in a semester and will be computed as follows

$$SGPA = \frac{\text{Sum (Course Credits} \times \text{Number of Grade Points in concerned Course Gained by the Student)}}{\text{Sum (Course Credits)}}$$

The SGPA will be mentioned on the grade card at the end of every semester.

- The Cumulative Grade Point Average (CGPA) will be used to describe the overall performance of a student in all semester of the course and will be computed as under.

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$$CGPA = \frac{\text{Sum (All ten Semester SGPA)}}{\text{Total Number of Semester}}$$

The SGPA and CGPA shall be rounded off to the second place of decimal.

Grade Card

Results will be declared by the Centre and the grade card (containing the grades obtained by the student along with SGPA) will be issued by the university after completion of every semester. The grade card will be consisting of following details.

- Title of the courses along with code opted by the student.
- Credits associated with the course.
- Grades and grade points secured by the student.
- Total credits earned by the student in a particular semester.
- Total credits earned by the students till that semester.
- SGPA of the student.
- CGPA of the student (at respective exit point).

Cumulative Grade Card

The grade card showing details grades secured by the student in each subject in all semesters along with overall CGPA will be issued by the University at respective exit point.

Course Structure

Paper No	Paper Title	Credits (Theory+ Tutorial / Assignment/ Practical)
Semester - I		
VOC 101	Linguistic Proficiency-I	3+1
VOC 102	Computer Science-I	3+1
VOC 103	Environmental Science	3+1
VOC 104	Mathematics	3+1
VOC 105	Principle of Management & Organizational behavior	3+1
VOC 106	Professional ethics & Moral values	2+0
VOC 107	Laboratory Course –I	0+2
VOC 108	Laboratory Course -II	0+2
	Total Credits	26
Semester - II		
VOC 201	Linguistic Proficiency-II	3+1
VOC 202	Computer Science-II	3+1
VOC 203	Life Science	3+1
VOC 204	Labor law & Stress Management	3+1
VOC 205	Voc-I	3+1
VOC 206	Voc-II (Assignments) and Industrial visits	0+2
VOC 207	Laboratory Course –III	0+2
VOC 208	Laboratory Course –IV	0+2
	Total Credits	26
Semester - III		
VOC 301	Linguistic Proficiency-III	3+1
VOC 302	Computer Science-III	3+1
VOC 303	Statistics	3+1
VOC 304	Voc-III	3+1
VOC 305	Voc-IV	3+1
VOC 306	Voc-V (Assignments)	0+2
VOC 307	Laboratory Course –V	0+2
VOC 308	Laboratory Course –VI	0+2
	Total Credits	26

Semester - IV		
VOC 401	Linguistic Proficiency-IV	3+1
VOC 402	Computer Science-IV	3+1
VOC 403	Indian Economy	3+1
VOC 404	Voc-VI	3+1
VOC 405	Voc-VII	3+1
VOC 406	Voc-VIII (Assignments)	0+2
VOC 407	Laboratory Course –VII	0+2
VOC 408	Industrial Training / Project –I	0+2
	Total Credits	26

Semester - V		
VOC 501	Industrial Ethics & Safety	3+1
VOC 502	Computer Science-V	3+1
VOC 503	Voc-IX	3+1
VOC 504	Voc-X	3+1
VOC 505	Voc-XI	3+1
VOC 506	Voc-XII (Assignments)	0+2
VOC 507	Laboratory Course –VIII	0+2
VOC 508	Laboratory Course –IX	0+2
	Total Credits	26

Semester - VI		
VOC 601	Personality Development	3+1
VOC 602	Out Door Management	3+1
VOC 603	Voc-XIII	3+1
VOC 604	Voc-XIV	3+1
VOC 605	Voc-XV	3+1
VOC 606	Voc-XVI (Assignments)	0+2
VOC 607	Laboratory Course –X	0+2
VOC 608	Industrial Training / Project -II	0+2
	Total Credits	26

Semester - VII		
VOC 701	Human Resource Management	3+1
VOC 702	Voc-XVII	3+1
VOC 703	Voc-XVIII	3+1
VOC 704	Voc-XIX	3+1
VOC 705	Voc-XX	3+1
VOC 706	Voc-XXI (Assignments)	0+2
VOC 707	Laboratory Course –XI	0+2
VOC 708	Industrial Training / Project -III	0+2
	Total Credits	26

	Semester - VIII		
VOC 801	Major Project –I /Industrial Training/ Professional Work/ Field Work (One term)		0+26
		Total Credits	26
	Semester - IX		
VOC 901	Voc- XXII		3+1
VOC 902	Voc-XXIII		3+1
VOC 903	Voc-XXIV		3+1
VOC 904	Voc-XXV		3+1
VOC 905	Voc-XXVI		3+1
VOC 906	Voc-XXVII (Assignments)		0+2
VOC 907	Laboratory Course –XII		0+2
VOC 908	Laboratory Course –XIII		0+2
		Total Credits	26
	Semester - X		
VOC 900	Major Project-II /Industrial Training/ Professional Work/ Field Work (One term)		0+26
		Total Credits	26
	Total Credits (Semester I to X)		260

VOC 101: Linguistic Proficiency-I

Course Objectives:

1. To facilitate the students to understand the fundamental of communicative English and Marathi
2. To facilitate the students to develop skills of communication in English and Marathi.

Part A : BASIC STRUCTURE OF THE ENGLISH LANGUAGE

Module - I
Tenses:
   1) Present tense   (includes all four types of tenses each)
      2) Past tense
      3) Future tense

Module - II
Spoken English:
1. Basic of pronunciation : Vowels, diphthongs,
2. Certain basic sounds including th, dh, gh sounds, fricatives etc.
3. Differences in the sounds of the letters, especially , w/v, f/ph etc.
4. Phonetic transcriptions.

Module - III
1. Introducing yourself (The communicator)
2. Introducing people to others
3. Giving personal information
4. Getting people's attention and interrupting
5. Giving instructions and seeking clarifications
1. Making requests and responding to requests

Reference Books:
1. Business Communicator – V.K. Jain, O. P. Biyani, S. Chand, New Delhi.
2. The Communicator – Board of Editors , Orient Blackswan Pvt. Ltd
3. The Art of Powerful Communication – Dinesh K. Vohra, Are Maria Publications, Pune

Part B :   BASIC STRUCTURE OF THE MARATHI LANGUAGE
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