

S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards

- 13 -

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**CIRCULAR NO. SU/Sci./B.Sc. Syllabi/6/2016**

It is hereby inform to all concerned that, on the recommendations of the Committees/Ad-hoc Boards the Hon'ble Vice-Chancellor has accepted the following revised syllabi in his emergency powers under Section-14[7] of the Maharashtra Universities Act, 1994 on behalf of the Academic Council as mentioned against their names under the **Faculty of Science** :-

Sr. No.	B.Sc. III Year Revised Syllabi	Semester
[1]	B.Sc. Automobile Technology [Degree Course],	V & VI
[2]	B.Sc. Workshop Technology [Degree Course],	V & VI
[3]	B.Sc. Refrigeration & Air Conditioning [Degree Course],	V & VI
[4]	B.Sc. Bioinformatics [Degree Course].	V & VI
[5]	B.Sc. Biotechnology [Optional],	V & VI
[6]	B.Sc. Horticulture [Optional],	V & VI
[7]	B.Sc. Dry Land Agriculture [Optional],	V & VI
[8]	B.Sc. Sericulture [Optional],	V & VI

This is effective from the **Academic Year 2016-2017** and onwards as appended herewith.

These syllabi are also available on the University Website www.bamu.ac.in

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.SU/B.Sc./2016/3849-68

Date:- 23-06-2016.

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Director,
*Board of College and
University Development.*

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Dr. Babasaheb Ambedkar Marathwada University.

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- 2] The Section Officer, [B.Sc. Unit],
- 3] The Section Officer, [B.C.S. Unit],
- 4] The Programmer [Computer Unit-1] Examinations,
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Dr. Babasaheb Ambedkar Marathwada University.

S-Cover Page

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**D.R. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY,
AURANGABAD.**



Revised Syllabus of

B. SC. III YEAR

AUTOMOBILE TECHNOLOGY

Semester-V & VI

[Three Year Degree Course]

[Effective from 2016-17 & onwards]

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

APPENDIX – 'A'
B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR

FIFTH SEMESTER

Paper no.	Name of Paper	Max Marks		Min. Marks for passing		Total Mark
		Theory	Practical	Theory	Practical	
1	Entrepreneurship development program -I	50	--	20	--	50
2	Automobile troubles maintenance and testing -I	50	--	20	--	50
3	Automobile electrical and electronics systems -I	50	--	20	--	50
4	Mechatronics -I	50	--	20	--	50
5	Computer Integrated Manufacturing Systems	50	--	20	--	50
6	Transport Management	50		20		50
7	Project-I	--	50	--	20	50
8	Practical-I based on paper 2	--	50		20	50
9	Practical-II based on paper 3	--	50	--	20	50
10	Practical-III based on paper 4	--	50	--	20	50
11	Practical -IV based on paper 5	--	50	--	20	50
12	Seasonal based on paper 6	--	50	--	20	50
Total		300	300	--	--	600

Total marks 300+ 300= 600

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

APPENDIX – 'A'
B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR

R-1878: The following shall be the scheme of examination of the Course.

FIFTH SEMESTER

Paper no.	Name of Paper	Scheme and Pattern of Examination					Total Mark
		Teaching Scheme Periods Hr.)			Duration		
		Theory Per week	Pract. Per week	Total	Theory Hrs.	Pract.	
1	Entrepreneurship development program –I	3	--	3	3	--	50
2	Automobile troubles maintenance and testing –I	3	--	3	3	--	50
3	Automobile electrical and electronics systems –I	3	--	3	3	--	50
4	Mechatronics –I	3	--	3	3	--	50
5	Computer Integrated Manufacturing Systems	3	--	3	3	--	50
6	Transport Management	3	--	3	3	--	50
7	Project-I	--	3	3	--	3	50
8	Practical-I based on paper 2	--	3	3	--	3	50
9	Practical-II based on paper 3	--	3	3	--	3	50
10	Practical-III based on paper 4	--	3	3	--	3	50
11	Practical –IV based on paper 5	--	3	3	--	3	50
12	Seasonal based on paper 6	--	3	3	--	3	50
Total		18	18	36	--	--	600

PAPER –VI Transport Management

Teaching Scheme Hours		Evaluation Scheme				Duration for Exam	
Th.	Pr.	Th. Ex.	SW	TW	Total	Theory	Practical
40(3hrs/week)	40(3hrs/week)	50	50	--	100	Two Hrs.	Three Hrs

1. Bus Transport Organization –

Classification road, water and air transport, their advantages and disadvantages. Passenger transport organization set up (MSRTC & Private Organization) urban and rural Transport. Theory of fares- flat fares and telescopic fares, scheduling of bus transport operation (M.S.R.T.C) and crewing. Co ordination between different department and maintenance department, calculation of cost of transport, various factors such as Geographical, social, Economical factor of bus transport operation . Layout of bus station, bus depot.

2. Goods Transport operation -

Basic Elements to transport- The way/ the vehicle, terminals infrastructural facilities. Various factors such as geographical, economical, social.

Goods transport organization – set up (for 1-vehicle, 10-vehicle, 100-vehicle) fixation of cost of transport fixed cost and running cost. Various types of booking- to pay, paid billing. Factors to be consider for scheduling of goods transport, transport and storage of petroleum product.

3. Transport operation –

Various records, log book , trip operation sheet, truck history record, monthly operational performance statement, Goods consignment note, Daily fuel consumption, complaint book room map, use of computer in maintaining the various records.

Control of traffic, speed limit, various important fitness certificate kaizen operation and research.

References:-

- 1] Automobile Engg by K.M. Gupta vol II
- 2] Motor vehicle act 1988
- 3] Elements of Transport by R. J. Eatan
- 4] Motor Transportation by Hudson & constantin
- 5] fundamental principles of road passenger Transport operation by F. G.Fletcher
- 6] Economics of transport by H. R. Bonavia
- 7] Transport in modern India by K.P.Bhatnagar, Satish Bhatnagar, S.C.Gupta.

PROJECT – I / SEMINAR

Teaching Scheme Hours		Evaluation Scheme				Duration for Exam	
Th.	Pr.	Th. Ex.	PR	TW	Total	Theory	Practical
--	40(3hrs/week)	-	50	--	50	--	Three Hrs.

Every individual student shall work on a recent topic selected or assigned from any engineering/allied/applied fields for the seminar of academic or industrial interest. It is expected that the student has to collect information on a topic which is not covered in curriculum of the under graduate course. Student has to refer hand book, research journals, reference books, proceeding of conference through library or internet and record of references considered for seminar is to preserved in hard copy or soft copy, which shall be produced at the time of seminar.

The report of seminar should be submitted in printed volume duly certified by guide, HOD and Principal in prescribed format given below. The student should deliver a seminar talk at least for 20 minutes based on the work done by him/her. The performance will be judged by his guide and another expert appointed by HOD.

INSTRUCTIONS TO PREPARE REPORT AND PPT

1. Seminar report shall be typed on A-4 size white bond paper.
2. Typing shall be with line spacing of 1.5 using black inkjet print on one side of the paper.
3. Margins a) Left 37.5mm b) Right, Top and Bottom 25mm.
4. Page number – At the bottom center aligned 12 point font size.
5. Header and Footer (12 point font size – Times New Roman)
 - a) Header – Right side at top stating title of the seminar.
 - b) Footer – Right side at bottom stating institute name.
6. Font
 - a) Main title font – 14 point – bold – Times New Roman – Upper case
 - b) Sub title font – 12 point – bold - Times New Roman – Title case
 - c) Text font - 12 point – normal - Times New Roman – Running
 - d) Graph / Figure / Table titles – 12 point – normal - Times New Roman – Title case
7. Graph / Figure / Table: - shall be located at the center along with its title and Graph No. / Figure No. / Table No. If Graph / Figure / Table or any information is copied from any of the references, reference no. is to be shown at the end of its title / statement in square bracket superscripted form

**D.R. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY,
AURANGABAD.**



Revised Syllabus

of

BACHELOR OF COMPUTER APPLICATION

(B.C.A.)

Under the Faculty of Management Science

Semester – V & VI

[Effective from 2011-12 & onwards]

BACHELOR OF COMPUTER APPLICATION

(BCA) SYLLABUS

FIFTH SEMESTER

Paper No	Title	Weekly		Marks Theory	Marks Sessional or practical		Total Marks	Duration Theory Exam
		Th	Pr		S	Pr		
XXV	Management Accounting	4	-	60	40	-	100	2 Hrs
XXVI	Organisational Behaviour	4	-	60	40	-	100	2 Hrs
XXVII	Business Elective I	4	-	60	40	-	100	2 Hrs
XXVIII	RDBMS using ORACLE	2	4	60	-	40	100	2 Hrs
XXIX	V B	2	4	60	-	40	100	2 Hrs
XXX	I T Elective I	2	4	60	-	40	100	2 Hrs
	Total	18	12	360	120	120	600	--

SIXTH SEMESTER

Paper No	Title	Weekly		Marks Theory	Marks Sessional or Practical		Total Marks	Duration Theory Exam
		Th	Pr		S	Pr		
XXXI	Business Law III	4	-	60	40	-	100	2 Hrs
XXXII	Business Elective II	4	-	60	40	-	100	2 Hrs
XXXIII	Elements of Commercial Portals	4	-	60	40	-	100	2 Hrs
XXXIV	System Programming	4	-	60	40	-	100	2 Hrs
XXXV	I T Elective II	2	4	60	-	40	100	2 Hrs
XXXVI	Project	-	8	-	-	100	100	--
	Total	18	12	300	160	140	600	--

S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards

- 1 -

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**CIRCULAR NO. SU/Sci./B.Sc. Syllabi/100/2016**

It is hereby notified for information to all concerned that, on the recommendation of the Ad-hoc Board in Computer Science and I.T. the **Academic Council at its meeting held on 01 & 02 June, 2016** has accepted the following revised syllabi as mentioned against their names under the Faculty of Science :-

Sr. No.	B.Sc. III Year Revised Syllabus	Semester
[1]	B.Sc. Computer Science Degree Course	V & VI
[2]	B.Sc. Information Technology Degree Course	V & VI
[3]	B.C.A. Science Degree Course	V & VI
[4]	B.Sc. Animation Degree Course	V & VI
[5]	B.Sc. Computer Science Optional	V & VI
[6]	B.Sc. Information Technology Optional	V & VI
[7]	B.C.A. Science Optional	V & VI
[8]	B.Sc. Computer Maintenance Optional	V & VI

This is effective from the **Academic Year 2016-2017** and onwards.

These syllabi are also available on the **University Website** www.bamu.ac.in

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.SU/B.Sc./2016/2389-639
A.C.M.A.I.No.10

Date:- 07-06-2016.

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Director,
Board of College and
University Development.

..2..

S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards

- 2 -

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Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambedkar
Marathwada University,
- 7] The Record Keeper,
Dr. Babasaheb Ambedkar Marathwada University.

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S*/-0070616/-

NAAC Re-accredited with Grade 'A'

Dr. Babasaheb Ambedkar Marathwada University

Aurangabad-431004



**REVISED SYLLABUS OF
B.Sc. (Computer Science)
Three Year Course
(With Effective From: 2014-15)**



हे ज्ञानिची पवित्रता | ज्ञानीचि आथि ||

Dr. Babasaheb Ambedkar Marathwada University

Aurangabad-431004.

Tel.No. : 0240-2403400/431, Fax:0240-2403113

Website : www.bamu.ac.in, <http://bamua.digitaluniversity.ac.in>

Dr. Babasaheb Ambedkar Marathwada University.

Appendix 'A'

A Candidate shall be admitted to the I year of the B.Sc. (Computer Science) degree course only if he/she satisfies the following condition:

1. He/ She must have passed the higher secondary (multipurpose) examination conducted by H.S.C. board Government of Maharashtra with science / technical subjects Or an Examination of any statutory University and Board recognized as equivalent thereto.

OR

He/She must have passed examination prescribed at the end of second year of the junior college conducted by the H.S.C. board, Government of Maharashtra with English, Second language, Physics, Chemistry, Mathematics and or Biology or one of the technical subjects prescribed at the said examination as the optional or elective subjects or an examination recognized as equivalent thereto.

OR

Candidate having offered prescribed vocational course (MCVC) with Computer techniques/I.T./Electronics.

OR

Three years Diploma Course in engineering conducted by the board of technical Education, Maharashtra State.

2. He/ She must have passed at qualifying examination.

A candidate who has passed the B.Sc.(Computer Science) examination of this university may be allowed to present himself subsequently at the degree examination in a subject or subjects other than those he has taken earlier provided that he puts in three years of attendance as a regular candidate for First, Second and Third year in the subject or subjects concerned excluding compulsory English, Second Language and remaining optional subject(s).

A candidate shall not be allowed to appear for such examination if he has passed the higher examination.

The Degree of Bachelor of Science (Computer Science) shall be conferred on candidate who has pursued a regular course of study consisting of six semesters in the relevant subject as prescribed and has appeared at the end examination and passed under the credit based system in all the examination prescribed for the Degree course in the faculty.

The pattern of the examination and the scope is indicated in the syllabus.[Annexure B]

- The Number of students in a theory class shall not exceed 60.
- Maximum number of students in a batch for practicals in first four semesters shall consist of 20 students and for fifth & sixth semester the batch shall consist of 15 students.
- The rules for admission to the subsequent (next) semesters will be the same as per the University guidelines.
- For Each course the concerned teacher will have to conduct Class tests after completion of 15 and 20 lectures. The mark list of the same is to be submitted to the university authority within 7 working days after the completion of class tests.
- Final Examination will be conducted by the University based on the complete syllabus.
- Final Practical Examination will be conducted by the university and examiners will submit the marks in the prescribed format of students for practical examination to the university.

The Number of Teaching Staff & infra-structure required to run the course will be as follow:-

The graduation is very important phase in the life of our young students. The college responsibly is not only to deliver a quality syllabus based education, but also to motivate them to be a good healthy citizen. In this direction, the college must have sufficient facilities to run the course. A guideline is listed below. The College must have following minimum facilities:

Infrastructure:

1. One Class room to accommodate 60 students. (approximately 250 sq.ft.)
2. A well equipped software Laboratory having a LAN system of 30 nodes and having internet connectivity with broad band. All legal software, antivirus software, firewall be available for smooth functioning of the laboratory.
3. A hardware laboratory having twenty microprocessor kits with add on cards as per their syllabus. Staff room of 100 sq.ft. with one table and one Almeria for each faculty member.
4. One office space of 100 sq.ft. with appropriate furniture.
5. One lady room of 100 sq.ft. with attached toilet.
6. One reading room of 200 sq.ft. with seating arrangements for at least 30 people. The library may be accommodated in the library.
7. One copy of every text book among five students for each subject be available along with one copy of reference book as per the syllabus.
8. Library must subscribe for computer and scientific magazines. Appropriate general reading materials must be available for overall development of students.
9. An open space for sports activities. The college must be encouraged to have sport equipments.

Staff:

1. The head of the department in the scale of reader/Professor.
2. The minimum number of teachers must be appointed as per the work load. Per semester, the work load may be computed on the basis of theory classes, tutorials and practical class per batch. Minimum number of teachers to run the course must be five excluding the head. Teachers must be appointed by the university/UGC norms. The quality of the course is directly related to quality of teachers for the course.
3. There must be one clerk in the office to look after administrative work. The placement of all staffs must be maintained properly.
4. One qualified librarian
- An appropriate number of class IV employees.

Curriculum Structure and Scheme of Evaluation: B.Sc.(C.S.)

Sr. No.	Paper Number	Name of the Paper Titles	Scheme of Teaching	Scheme of Evaluation(Marks)		
			Theory / Practical (Lect. /week)	Theory / Practical (Marks)	Exam Duration (in hrs.)	Total Mark
I Semester						
1	CS101-T	Computer Fundamentals	3	50	2	50
2	CS102-T	Digital Electronics	3	50	2	50
3	CS103-T	Microprocessor - I	3	50	2	50
4	CS104-T	C Programming – I	3	50	2	50
5	CS105-T	Communication Skill – I	3	50	2	50
6	CS106-T	Mathematical Foundation	3	50	2	50
7	CS107-P	Office Suite	4	50	2	50
8		C Programming – I	4	50	2	50
9	CS108-P	Microprocessor – I	4	50	2	50
10		Digital Electronics	4	50	2	50
II Semester						
1	CS201-T	Data Structure	3	50	2	50
2	CS202-T	Operating System	3	50	2	50
3	CS203-T	Microprocessor – II	3	50	2	50
4	CS204-T	C Programming – II	3	50	2	50
5	CS205-T	Communication Skill – II	3	50	2	50
6	CS206-T	Numerical Computation Methods	3	50	2	50
7	CS207-P	Data Structure	4	50	2	50
8		Microprocessor – II	4	50	2	50
9	CS208-P	C Programming – II	4	50	2	50
10		Numerical Comp. Methods	4	50	2	50

Sr. No.	Paper Number	Name of the Paper Titles	Scheme of Teaching	Scheme of Evaluation(Marks)		
			Theory / Practical (Lect. / week)	Theory / Practical (Marks)	Exam Duration (in hrs.)	Total Mark
III Semester						
1	CS301-T	Advance Data Structure	3	50	2	50
2	CS302-T	Unix Operating System	3	50	2	50
3	CS303-T	PC Maintenance	3	50	2	50
4	CS304-T	Programming in CPP	3	50	2	50
5	CS305-T	Database Management System	3	50	2	50
6	CS306-T	Statistical Method	3	50	2	50
7	CS307-P	Data Structure using CPP	4	100	2	100
8		DBMS	4		2	
9	CS308-P	PC Maintenance	4	100	2	100
10		Unix	4		2	

IV Semester						
1	CS401-T	Software Engg.	3	50	2	50
2	CS402-T	Fedora	3	50	2	50
3	CS403-T	Basic of Networking	3	50	2	50
4	CS404-T	Core Java	3	50	2	50
5	CS405-T	Adv. DBMS	3	50	2	50
6	CS406-T	Web Fundamental	3	50	2	50
7	CS407-P	Java in Fedora OS	4	100	2	100
8		Web Fundamental	4		2	
9	CS408-P	Based in Adv. DBMS and N/w	4	100	2	100
10		Mini Project	4		2	

Sr. No.	Paper Number	Name of the Paper Titles	Scheme of Teaching	Scheme of Evaluation(Marks)		
			Theory / Practical (Lect./week)	Theory / Practical (Marks)	Exam Duration (in hrs.)	Total Mark
V Semester						
1	CS501-T	Software Cost Estimation	3	50	2	50
2	CS502-T	Basic of Android O. S.	3	50	2	50
3	CS503-T	Core Java-II	3	50	2	50
4	CS504-T	Basic of Computer Graphics	3	50	2	50
5*	CS505-T	Beginners Prog. with PHP	3	50	2	50
6*	CS506-T	Basic of ASP.Net	3	50	2	50
7 [#]	CS507-T	Data Mining	3	50	2	50
8 [#]	CS508-T	Advanced Networking	3	50	2	50
9	CS509-P	Pr. Based on Adv. Java	4	100	2	100
10		Pr. Based on Comp. Graphics	4		2	
11	CS510-P	Pr. Based on Android O.S.	4	100	2	100
12		Pr. Based on PHP/ASP.Net	4		2	
VI Semester						
1	CS601-T	Software Quality & Testing	3	50	2	50
2	CS602-T	Android Application Development	3	50	2	50
3	CS603-T	Theory of Computation	3	50	2	50
4	CS604-T	Advanced Computer Graphics	3	50	2	50
5*	CS605-T	Advanced Prog. With PHP	3	50	2	50
6*	CS606-T	Programming Language: C#	3	50	2	50
7 [#]	CS607-T	e-Commerce	3	50	2	50
8 [#]	CS608-T	Ethics and Cyber Law	3	50	2	50
9	CS609-P	Pr. Based on Android Develop.	4	100	2	100
10		Pr. Based on PHP / C#	4		2	
11	CS610-P	Major Project	8	100	4	100
12						

*** and #: Any one paper is to be opted from the group**

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**CIRCULAR NO. SU/Sci./B.Sc. Syllabi/6/2016**

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[6]	B.Sc. Horticulture [Optional],	V & VI
[7]	B.Sc. Dry Land Agriculture [Optional],	V & VI
[8]	B.Sc. Sericulture [Optional],	V & VI

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University Campus,
Aurangabad-431 004.
REF.NO.SU/B.SC./2016/3849 - 68

Date:- 23-06-2016.

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Director,
*Board of College and
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**D.R. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY,
AURANGABAD.**



Revised Syllabus of

B.Sc. III YEAR

MANUFACTURING PROCESS / WORKSHOP TECHNOLOGY

Semester-V & VI

[Three Year Degree Course]

[Effective from 2016-17 & onwards]

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD.**

APPENDIX – 'A'
B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR

FIFTH SEMESTER

Paper no.	Name of Paper	Max Marks			Min. Marks for passing		Total Mark
		Theory	Practical		Theory	Practical	
1	Entrepreneurship development program -I	30	20	--	18	--	50
2	Robotics-I	30	20	--	18	--	50
3	Tool Engineering	30	20	--	18	--	50
4	Mechatronics –I	30	20	--	18	--	50
5	Computer Integrated Manufacturing Systems	30	20	--	18	--	50
6	Quality Engineering & Industrial Management	30	20		18		50
7	Project-I	--	--	50	--	18	50
8	Practical-I based on paper 2	--	--	50		18	50
9	Practical-II based on paper 3	--	--	50	--	18	50
10	Practical-III based on paper 4	--	--	50	--	18	50
11	Practical –IV based on paper 5	--	--	50	--	18	50
12	Seasonal based on paper 6	--	--	50	--	18	50
Total		300	300		--	--	600

Total marks 300+ 300= 600

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD.**

**APPENDIX – 'A'
B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR**

R-1878: The following shall be the scheme of examination of the Course.

FIFTH SEMESTER

Paper no.	Name of Paper	Scheme and Pattern of Examination					Total Mark
		Teaching Scheme Periods (1 Hr.)			Duration		
		Theory Per week	Pract. Per week	Total	Theory Hrs.	Pract.	
1	Entrepreneurship development program -I	3	--	3	3	--	50
2	Robotics-I	3	--	3	3	--	50
3	Tool Engineering	3	--	3	3	--	50
4	Mechatronics –I	3	--	3	3	--	50
5	Computer Integrated Manufacturing Systems	3	--	3	3	--	50
6	Quality Engineering & Industrial Management	3	--	3	3	--	50
7	Project-I	--	3	3	--	3	50
8	Practical-I based on paper 2	--	3	3	--	3	50
9	Practical-II based on paper 3	--	3	3	--	3	50
10	Practical-III based on paper 4	--	3	3	--	3	50
11	Practical –IV based on paper 5	--	3	3	--	3	50
12	Seasonal based on paper 6	--	3	3	--	3	50
Total		18	18	36	--	--	600

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD.**

APPENDIX – 'A'

**B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR**

SIXTH SEMESTER

Paper no.	Name of Paper	Max Marks			Min. Marks for passing		Total Mark
		Theory	Practical		Theory	Practical	
1	Entrepreneurship development Program -II	30	20	--	18	--	50
2	Robotics – II	30	20	--	18	--	50
3	Industrial Hydraulics and Pneumatics	30	20	--	18	--	50
4	Mechatronics –II	30	20	--	18	--	50
5	Auto Cad	30	20	--	18	--	50
6	Industrial Engineering	30	20		18		50
7	Project-II	--	--	50	--	18	50
8	Practical-I based on paper 2	--	--	50		18	50
9	Practical-II based on paper 3	--	--	50	--	18	50
10	Practical-III based on paper 4	--	--	50	--	18	50
11	Practical –IV based on paper 5	--	--	50	--	18	50
12	Seasonal based on paper 6	--	--	50	--	18	50
Total		300	300		--	--	600

Total marks 300 + 300= 600

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD.**

APPENDIX – ‘A’

**B. Sc. (MANUFACTURING PROCESS)/(WORKSHOP TECHNOLOGY)
THIRD YEAR**

R-1878 : The following shall be the scheme of examination of the Course.

SIXTH SEMESTER

Paper no.	Name of Paper	Scheme and Pattern of Examination					Total Mark
		Teaching Scheme Periods (1 Hr.)			Duration		
		Theory Per week	Pract. Per week	Total	Theory Hrs.	Pract.	
1	Entrepreneurship development Program -II	3	--	3	3	--	50
2	Robotics – II	3	--	3	3	--	50
3	Industrial Hydraulics and Pneumatics	3	--	3	3	--	50
4	Mechatronics –II	3	--	3	3	--	50
5	Auto Cad	3	--	3	3	--	50
6	Industrial Engineering	3	--	3	3	--	50
7	Project- II	--	3	3	--	3	50
8	Practical-I based on paper 2	--	3	3	--	3	50
9	Practical-II based on paper 3	--	3	3	--	3	50
10	Practical-III based on paper 4	--	3	3	--	3	50
11	Practical –IV based on paper 5	--	3	3	--	3	50
12	Seasonal based on paper 6	--	3	3	--	3	50
Total		18	18	36	--	--	600

S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards - 13 -

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**CIRCULAR NO. SU/Sci./B.Sc. Syllabi/6/2016**

It is hereby inform to all concerned that, on the recommendations of the Committees/Ad-hoc Boards the Hon'ble Vice-Chancellor has accepted the following revised syllabi in his emergency powers under Section-14[7] of the Maharashtra Universities Act, 1994 on behalf of the Academic Council as mentioned against their names under the Faculty of Science :-

Sr. No.	B.Sc. III Year Revised Syllabi	Semester
[1]	B.Sc. Automobile Technology . [Degree Course],	V & VI
[2]	B.Sc. Workshop Technology [Degree Course],	V & VI
[3]	B.Sc. Refrigeration & Air Conditioning [Degree Course],	V & VI
[4]	B.Sc. Bioinformatics [Degree Course].	V & VI
[5]	B.Sc. Biotechnology [Optional],	V & VI
[6]	B.Sc. Horticulture [Optional],	V & VI
[7]	B.Sc. Dry Land Agriculture [Optional],	V & VI
[8]	B.Sc. Sericulture [Optional],	V & VI

This is effective from the **Academic Year 2016-2017** and onwards as appended herewith.

These syllabi are also available on the University Website www.bamu.ac.in

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.SU/B.Sc./2016/3849-68

Date:- 23-06-2016.

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Director,
Board of College and
University Development.

Copy forwarded with compliments to :-

- 1] **The Principals, affiliated concerned Colleges,
Dr. Babasaheb Ambedkar Marathwada University.**

Copy to :-

- 1] The Controller of Examinations,
- 2] The Section Officer, [B.Sc. Unit],
- 3] The Section Officer, [B.C.S. Unit],
- 4] The Programmer [Computer Unit-1] Examinations,
- 5] The Programmer [Computer Unit-2] Examinations,
- 6] The In-Charge, E-Suvidha Kendra, [Professional Unit], Rajarshi Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambedkar Marathwada University,
- 7] The Record Keeper,
Dr. Babasaheb Ambedkar Marathwada University.

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**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD**

B. Sc. (REFRIGERATION & AIR CONDITIONING) COURSE

THIRD YEAR

FIFTH & SIXTH SEMESTER

**DR. BABASAHEB AMBEDKAR MARATHWADA
UNIVERSITY, AURANGABAD.**

APPENDIX – ‘A’

**B. Sc. (REFRIGERATION AND AIR CONDITIONING)
THIRD YEAR**

FIFTH SEMESTER

Paper no.	Name of Paper	Max Marks		Min. Marks for passing		Total Mark
		TH	PR	TH	PR	
RAC-501	Entrepreneurship development Program -I	50	--	20	--	50
RAC-502	Refrigerants	50	--	20	--	50
RAC-503	Refrigeration & Air Conditioning Material	50	--	20	--	50
RAC-504	Refrigeration & Air Conditioning Application	50	--	20	--	50
RAC-505	Refrigeration & Air Conditioning Piping System	50	--	20	--	50
RAC-506	Non-Conventional Refrigeration System	50	--	20	--	50
RAC-507	Project-I/Seminar	--	50	--	20	50
RAC-508	Practical-I based on paper 2	--	50	--	20	50
RAC-509	Practical-II based on paper 3	--	50	--	20	50
RAC-510	Practical-III based on paper 4	--	50	--	20	50
RAC-511	Practical –IV based on paper 5	--	50	--	20	50
RAC-512	Seasonal based on paper 6	--	50	--	20	50
Total		300	300	--	--	600

Total marks 300+ 300= 600

**DR. BABASAHEB AMBEDKAR MARATHWADA
UNIVERSITY, AURANGABAD.**

**APPENDIX – ‘A’
B. Sc. (Refrigeration and Air Conditioning)
THIRD YEAR**

R-1878: The following shall be the scheme of examination of the Course.

FIFTH SEMESTER

Paper no.	Name of Paper	Scheme and Pattern of Examination					Total Mark
		Teaching Scheme Periods (1 Hr.)			Duration		
		Theory Per week	Pract. Per week	Total	Theory Hrs.	Pract.	
RAC-501	Entrepreneurship development Program -I	3	--	3	3	--	50
RAC-502	Refrigerants	3	--	3	3	--	50
RAC-503	Refrigeration & Air Conditioning Material	3	--	3	3	--	50
RAC-504	Refrigeration & Air Conditioning Application	3	--	3	3	--	50
RAC-505	Refrigeration & Air Conditioning Piping System	3	--	3	3	--	50
RAC-506	Non-Conventional Refrigeration System	3	--	3	3	--	50
RAC-507	Project-I/Seminar	--	3	3	--	3	50
RAC-508	Practical-I based on paper 2	--	3	3	--	3	50
RAC-509	Practical-II based on paper 3	--	3	3	--	3	50
RAC-510	Practical-III based on paper 4	--	3	3	--	3	50
RAC-511	Practical –IV based on paper 5	--	3	3	--	3	50
RAC-512	Seasonal based on paper 6	--	3	3	--	3	50
Total		18	18	36	--	--	600

**DR. BABASAHEB AMBEDKAR MARATHWADA
UNIVERSITY, AURANGABAD.**

**APPENDIX – ‘A’
B. Sc. (Refrigeration & Air-Conditioning)
THIRD YEAR**

SIXTH SEMESTER

Paper no.	Name of Paper	Max Marks		Min. Marks for passing		Total Mark
		TH	PR	Theory	Practical	
RAC-601	Entrepreneurship development program -II	50	--	20	--	50
RAC-602	Refrigeration & Air Conditioning Maintenance	50	--	20	--	50
RAC-603	Refrigeration & Air Conditioning Installation Techniques	50	--	20	--	50
RAC-604	Refrigeration & Air Conditioning Standard	50	--	20	--	50
RAC-605	Selection of Equipment & Assembly	50	--	20	--	50
RAC-606	Refrigeration & Air Conditioning Safety	50		20		50
RAC-607	Project II	--	50	--	20	50
RAC-608	Practical-I based on paper 2	--	50		20	50
RAC-609	Practical-II based on paper 3	--	50	--	20	50
RAC-610	Practical-III based on paper 4	--	50	--	20	50
RAC-611	Practical –IV based on paper 5	--	50	--	20	50
RAC-612	Seasonal based on paper 6	--	50	--	20	50
Total		300	300	--	--	600

Total marks 300 + 300= 600

**DR. BABASAHEB AMBEDKAR MARATHWADA
UNIVERSITY, AURANGABAD.**

APPENDIX – ‘A’

**B. Sc. (Refrigeration & Air Conditioning)
THIRD YEAR**

R-1878 : The following shall be the scheme of examination of the Course.

SIXTH SEMESTER

Paper no.	Name of Paper	Scheme and Pattern of Examination					Total Mark
		Teaching Scheme Periods (1 Hr.)			Duration		
		Theory Per week	Pract. Per week	Total	Theory Hrs.	Pract.	
RAC-601	Entrepreneurship development program -II	3	--	3	3	--	50
RAC-602	Refrigeration & Air Conditioning Maintenance	3	--	3	3	--	50
RAC-603	Refrigeration & Air Conditioning Installation Techniques	3	--	3	3	--	50
RAC-604	Refrigeration & Air Conditioning Standard	3	--	3	3	--	50
RAC-605	Selection of Equipment & Assembly	3	--	3	3	--	50
RAC-606	Refrigeration & Air Conditioning Safety	3	--	3	3	--	50
RAC-607	Project II	--	3	3	--	3	50
RAC-608	Practical-I based on paper 2	--	3	3	--	3	50
RAC-609	Practical-II based on paper 3	--	3	3	--	3	50
RAC-610	Practical-III based on paper 4	--	3	3	--	3	50
RAC-611	Practical –IV based on paper 5	--	3	3	--	3	50
RAC-612	Seasonal based on paper 6	--	3	3	--	3	50
Total		18	18	36	--	--	600

**D R. BABASAHEB AMBEDKAR
MARATHWADA UNIVERSITY,
AURANGABAD.**



**Curriculum under Choice Based Credit &
Grading System
M.Sc. I & II Year
Computer Science & I.T.
Semester-I to IV**

**run at college level from the
Academic Year 2015-16 & onwards**

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD
DEPARTMENT OF COMPUTER SCIENCE AND
INFORMATION TECHNOLOGY**



SCHEME FOR CHOICE BASED CREDIT SYSTEM (CBCS)

W.E.F. JUNE, 2011 (ACADEMIC YEAR, 2011 to 2012 Onwards)

M. Sc. Computer Science Course Structure:

Sem-I	Sem-II	Sem-III	Sem-IV
Advanced Java	Data Structure and Analysis of Algorithm	Java Network Programming	Pattern Recognition
Neural Network	Advanced Neural Network and Fuzzy System	Advanced Software Engineering and Technology	Major Project
Digital Signal Processing	Image Processing	Computer Vision	Seminar
Advanced Operating System	Parallel Computing	Elective - I: (Select any one from list of elective I) 1. Advanced Embedded System 2. Data Ware Housing 3. GIT 4. Biometric Techniques 5. Mobile Computing	Elective -II: (Select any one from list of elective II) 1. Theoretical Computer Science 2. Decision Support System & intelligent System 3. Data Mining 4. Cryptography and Network Security 5. Introduction to MEMS Pro+

Semester-I

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC401	Advanced Java	4	4	80	20
CSC402	Neural Network	4	4	80	20
CSC403	Digital Signal Processing	4	4	80	20
CSC404	Advanced Operating System	4	4	80	20
CSC451	Practical Based on CSC401	2	4 (Per Batch)	50	-
CSC452	Practical Based on CSC402	2	4 (Per Batch)	50	-
CSC453	Practical Based on CSC403	2	4 (Per Batch)	50	-
CSC454	Practical Based on CSC404	2	4 (Per Batch)	50	-
Total No of Credits in Sem-I		24	--	--	--

Semester-II

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC405	Data Structure and Analysis of Algorithm	4	4	80	20
CSC406	Advanced Neural Network and Fuzzy System	4	4	80	20
CSC407	Image Processing	4	4	80	20
CSC408	Parallel Computing	4	4	80	20
CSC455	Practical Based on CSC405	2	4 (Per Batch)	50	-
CSC456	Practical Based on CSC406	2	4 (Per Batch)	50	-
CSC457	Practical Based on CSC407	2	4 (Per Batch)	50	-
CSC458	Practical Based on CSC408	2	4 (Per Batch)	50	-
Total No of Credits in Sem-II		24	--	--	--

Semester-III

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC501	Java Network Programming	4	4	80	20
CSC502	Advanced Software Engineering and Technology	4	4	80	20
CSC503	Computer Vision	4	4	80	20
CSC504	Elective - I: (Select any one from list of elective I)	4	4	80	20
CSC551	Practical Based on CSC501	2	4 (Per Batch)	50	-
CSC552	Practical Based on CSC502	2	4 (Per Batch)	50	-
CSC553	Practical Based on CSC503	2	4 (Per Batch)	50	-
CSC554	Practical Based on CSC504	2	4 (Per Batch)	50	-
Total No of Credits in Sem-III		24	--	--	--

Semester-IV

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC505	Pattern Recognition	4	4	80	20
CSC506	Elective -II: (Select any one from list of elective II)	4	4	80	20
CSC555	Practical Based on CSC505	2	4 (Per Batch)	50	-
CSC556	Practical Based on CSC506	2	4 (Per Batch)	50	-
CSC557	Major Project	8	16 (Per Batch)	50	-
CSC558	Seminar	4	8 (Per Batch)	50	-
Total No of Credits in Sem-IV		24	--	--	--

Total credits of the course =104 (24+24+24+24+8)

Elective I					
Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC421	Advanced Embedded System	4	4	80	20
CSC422	Practical Based on CSC421	2	4 (Per Batch)	50	-
CSC423	Data Ware Housing	4	4	80	20
CSC424	Practical Based on CSC423	2	4 (Per Batch)	50	-
CSC425	GIT	4	4	80	20
CSC426	Practical Based on CSC425	2	4 (Per Batch)	50	-
CSC427	Biometric Techniques	4	4	80	20
CSC428	Practical Based on CSC427	2	4 (Per Batch)	50	-
CSC429	Mobile Computing	4	4	80	20
CSC430	Practical based on CSC429	2	4 (Per Batch)	50	-

Elective II					
Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks: 100	
				External	Internal
CSC431	Theoretical Computer Science	4	4	80	20
CSC432	Practical based on CSC431	2	4 (Per Batch)	50	-
CSC433	Decision Support System & Intelligent System	4	4	80	20
CSC434	Practical based on CSC433	2	4 (Per Batch)	50	-
CSC435	Data Mining	4	4	80	20
CSC436	Practical based on CSC435	2	4 (Per Batch)	50	-
CSC437	Cryptography and Network Security	4	4	80	20
CSC438	Practical based on CSC437	2	4 (Per Batch)	50	-
CSC439	Introduction to MEMS Pro+	4	4	80	20
CSC440	Practical based on CSC439	2	4 (Per Batch)	50	-

Service Courses:

The student should opt service course of 8 credits either from parent department or from other department.

Course Code	Course Title	No. of Credits	No. of Hours / Week	Total Marks:100	
				External	Internal
CSC441	Introduction to MATLAB	2	2	80	20
CSC442	Practical Based on CSC441	2	4 (Per Batch)	50	-
CSC443	Aptitude	2	2	80	20
CSC444	Practical Based on CSC443	2	4 (Per Batch)	50	-
CSC445	Personality Development	2	2	80	20
CSC446	Practical Based on CSC445	2	4 (Per Batch)	50	-
CSC447	Communication Skill	2	2	80	20
CSC448	Practical Based on CSC447	2	4 (Per Batch)	50	-
CSC449	Programming in VB.NET	2	2	80	20
CSC450	Practical Based on CSC449	2	4 (Per Batch)	50	-