

S-01 & 02 June, 2016 AC after Circulars from Circular No.100 & onwards+ - 39 -  
**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**

**CIRCULAR NO. SU/Service Course/30/2016**

It is hereby inform to all concerned that, the Choice Based Credit and Grading System have been implemented to the affiliated colleges from the academic year 2015-16 at Post Graduate level for the all Faculties. According to the guidelines of C.B.C. & G.S. it is essential to teach the Service Course to students. The authorities of the university has decided that the service courses run at University Campus and Sub-Center, Osmanabad be apply to the college level. The concerns are inform that to instruct to the students to Choice any one Service Course as per their willingness. Where only one post graduate course they can take the service course of the concerned subject. The syllabi of the service courses are uploaded with the circular on the University website [www.bamu.ac.in](http://www.bamu.ac.in)

The service courses be teach to the students with the **syllabus of IVth-Semester for this year only and hereafter** to tech with the syllabus of III-Semester as per their relevant courses.

This is effective from the academic year 2016-17.

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

University Campus,  
Aurangabad-431 004.  
REF.NO. SU/SERVICE COURSE /  
SYLLA./2016/5117-516  
Date:- 02-09-2016.

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*Director,*  
*Board of College and*  
*University Development.*

**Copy forwarded with compliments to:-**

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

**Copy to :-**

- 1] The Controller of Examinations,
  - 6] The Section Officer, [ M.A. Unit ],
  - 7] The Section Officer, [ M.Sc. Unit ],
  - 8] The Section Officer, [ M.Com. Unit ],
  - 9] The Section Officer, [ Management Unit ],
  - 10] The Section Officer, [ Professional Unit ],
  - 11] The Section Officer, [ Engineering Unit ],
  - 3] The Programmer [Computer Unit-1] Examinations,
  - 4] The Programmer [Computer Unit-2] Examinations,
  - 5] The Public Relation Officer,
  - 6] The Co-ordinator, E-Suvidha Kendra, [Rajarshi Shahu Maharaj Pariksha Bhavan,
  - 7] The Record Keeper.
- Dr. Babasaheb Ambedkar Marathwada University,  
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**DR. BABASAHEB AMBEDKAR  
MARATHWADA UNIVERSITY,  
AURANGABAD.**



**M. A. Economics**

**Service Course**

*[ Effective from 2016-17 & onwards ]*

**M.A. (Economics) SYLLABUS  
Service Course**

<b>Course Code No.: ECO-541</b>		<b>No. of Credits:04</b>	<b>Semester: IV</b>
<b>Course Title:</b>		<b>Introduction to Broadly Applicable Mathematical and Statistical Methods</b>	
<b>Course Objectives:</b>			
1. To provide an in-dept and clear coverage of the important practical , technical computational mathematical and statistical accepts of Economics to students			
2. To create interest among students about Statistical and Mathematical methods in Economics and encourage to apply different context.			
<b>Unit</b>	<b>Course Content</b>		<b>Periods</b>
I	<b>Financial Mathematics</b> Calculation and interpreseton of- Simple and compound interest rate, nominal and real interest rate, flat and reducing interest rate, simple and compound growth rate, discrete and continuous growth rate, net present value , internal rate of return , payback period , benefit cost ratio, inflection rates, population growth rate ,multipliers.		15
II	<b>Matrices and Input-Output analysis</b> Meaning and types of matrices with properties , algebra of matrices-addition, subtraction , multiplication, Inverse (elementary row operation) Input-Output analysis- Assumptions, input coefficient matrix, technological matrix, open input-output model, closed input –output model,		13
III	<b>Game Theory</b> Important Concepts, types of game types of strategies , Saddle-point solution, Non-constant-sum games & prisoners' dilemma,		8
IV	<b>Index Number and Time Series</b> Meaning ,Uses , Methods of construction of price index number- Laspeyre's, Paasche's ,Fisher's Marshall Edgeworth Kelly's method Aggregate Expenditure method, Family Budget method , quantity index number ,test of adequacy-Unit test ,Time reversal test, Factor reversal test Circular test .Time series- Components of time series, uses of time series, examples.		12
V	<b>Measures of Central Tendency , Variation, and Hypothecs Testing</b> Mean ,Median, Mode ,Standard Deviation, Coefficient of Variation , Merit-Demerit of Measures of Central Tendency and Variation, properties of good measures of averages and dispersion Types of hypotheses Student Test, F-ratio test,		12

**Suggested Readings:**

1. Chatterjee Dipak(2006), Linear Programming And Theory ,Prentice-Hall,India.
2. Dowling . E. T., *Introduction to Mathematical Economics (2ndEdition),(Schaum's Outline Series of Theory and Problems)*, McGraw-Hill, USA, 1992
3. Aggarwal B.M.(2010) ,**Business Mathematics & Statistics** , Ane Books Pvt. Ltd, New Delhi
4. Bhowse D.(2007) , **Mathematical Economics**, Himalaya Publishing House, Nagpur,
5. Gupta S.P(1988) –Statistical Methods- Sultan Chand & Sons , Delhi ,
6. Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.
7. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge
8. Hogg, R. V. and A. T. Craig (1970), Introduction to Mathematical Statistics (3rd Edition), Macmillan Publishing Co., New York
9. Monga G.S.(199), **Mathematics & Statistics For Economics**, Vikas Publishing House Pvt. Ltd. New Delhi
10. Martin Anthony & Norman Biggs( 2000), **Mathematics For Finance**, Cambridge U.K.

**Additional Reading**

1. Allen, R. G. D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
3. Yamane, Taro (1975), Mathematics for Economists, Prentice Hall of India, New Delhi.
4. Baumol, W. J. (1984), Economic Theory and Operations Analysis, Prentice Hall, Englewood Cliffs, New Jersey.
5. P.N.Mishra,(2003) ,Quantitative Techniques for Managers, Excel Books Private Limited, New Delhi
6. Ann J. Hughes, Dennis E. Grawiog-Linear Programming : An Emphasis on Decision Making, Addison-wesley Publishing Company,Inc,London,1973
7. I.N. Bronshtein, K.A. Semendyayev, G.Musiol,H.Muehlig-Handbook of Mathematics ,Springer,New York, 4<sup>th</sup> Edition.
8. Baumol, W. J. (1977). *Economic Theory and Operations Analysis*, Prentice Hall.
9. Mehta & Madnani (1992). *Mathematics for Economists*, S. Chand, New Delhi.
10. Dowling . E. T., *Introduction to Mathematical Economics (2ndEdition)*, (*Schaum's Outline Series of Theory and Problems*), McGraw-Hill, USA, 1992
11. Chiang, A. C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.