

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

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.Sc. Zoology

Service Course

[Academic Year 2016-17 & onwards]

Service Courses

Service courses are comprising theory and practical/project work. Any one service course is to be adopted as per choice of student in third semester. The service Course is allotted to the students who have been admitted in the other Departments.

Paper No. ZOO- 581 Pisciculture

Total no. of credits- 4

No. of periods per credit- 15

Total No. of periods -60

Evaluation: External-80%, Internal-20%

Objectives

21st century practice the culture of about 430 (97%) of the species. Given the long-term importance of agriculture, it is interesting to note that, to date only 0.0002 % of known animal species have been domesticated, compared with marine plant and animal species. Domesticating aquatic species involve fewer risks to humans than land animals, which took a large toll in human lives.

The farming of fish is the most common form of aquaculture. It involves raising fish commercially in tanks, ponds, or ocean enclosures, usually for food. A facility that releases juvenile fish into the wild for recreational fishing or to supplement a species natural numbers is generally referred to as a fish hatchery. Fish species raised by fish farms include carps, tilapia, catfish and cod.

In the region like Marathwada, pisciculture has not taken a key position as cash crop as agriculture product. Hence, very motto of this service course is to introduce pisciculture [fish culture] in this scenario as a theory cum practical course at post graduate level student in University. It will certainly attract the attention of youth which may lead to self employment. Such course will really help to transfer the technology from laboratory to land to gain real knowledge of fish culture.

*** This service course is divided in to two parts consisting of two credits for theory and two credits for the practicals to provide the practical training to the students so that they can start the fish culture in their fields or train the others.**

Theory component

Unit I

1. Introduction to freshwater fishes
2. Survey of fish fauna of the river Godavari
3. Study of Fish food [planktons]
4. Breeding of fishes

Unit II

1. Types of fish pond
2. Manuring and maintenance of fish pond
3. Collection of fish seed
4. Raring of fish

Unit III

1. Identification of fish diseases
2. Treatment of fish diseases
3. Marketing of fishes
4. Economics of fish culture

Practicals or demonstration : 2 credits

1. Collection of fishes from market for identification
2. Identification of freshwater fishes
3. Collection of fish seed
4. Packaging of seed for transportation

5. Preparation of fish pond [model]
6. Application of fertilizer in pond
7. Maintenance of fish ponds
8. Identification of male and female fishes
9. Breeding techniques in fish
10. Observations of fertilized and non-fertilized eggs, fry, fingerlings and adult fish
11. Feeding of fishes[artificial and natural]
12. Observations of planktons as food of fish
13. Identification of fish diseases and their treatment
14. Fishing tools and techniques
15. Technique of fish marketing
16. Visit to any fish production unit

Reference books

1. Prosser & Brown- Comparative Physiology
2. Leninger- Principles of Biochemistry
3. Harper-. Physiological Chemistry
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5. Stickney, R.R. -Principles of Warm water Aquaculture. John Wiley & Sons Inc., 1979.
6. Boyd, C.E. -Water Quality Management for Pond Fish Culture. Elsevier Scientific Publishing Company, 1982.
7. Jhingran, V.G. -Fish and Fisheries of India. Hindustan Publishing Corporation India, 1982
8. Bardach, et. al. -Aquaculture – The Farming and Husbandry of Freshwater and Marine Organisms. John Wiley & Sons, NY, 1972.
8. Chondar, C.L. -Hypophysation of Indian major carps. Satish Book Enterprise, Agra, 1980.
9. Santhanam, R. et. al. -A Manual of Freshwater Aquaculture. Oxford & IBH Publishing Co. Pvt. Ltd., 1987.
10. Cheng, T.C. -The Biology of Animal Parasites. Saunders, Philadelphia, 1964.
11. Ribelin, W.E. & G. Miguki- The Pathology of Fishes. The Univ. of Wisconsin Press Ltd., Great Russel st., London, 1975.
12. Schauperclaus- Fish Diseases. Vol. I & II.
13. Douglas P Anderson - Text Book of Fish Immunology
14. Nandini Shetty- Immunology. Introductory Textbook.
15. Karunasagar, I. -Aquaculture and Biotechnology. Oxford-IBH Publishers, New Delhi,
17. Govindan, T.K. -Fish Processing Technology, Oxford-IBH, 1985.
18. Shang, Y.C. -Aquaculture Economic Analysis – An Introduction. 1990.
19. Nikolsky, G.V. -Ecology of Fishes. Academic Press, NY, 1963.
20. Howar, W.S. & D.J. Randal- Fish Physiology, Vols. 1–4, Academic Press, NY, 1970.
22. Carl, B.E. Biology of Fishes- Saunders, 1979.
23. Turnor - Textbook of endocrinology
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