

**Dr. Babasaheb Ambedkar Marathwada University,
Aurangabad - 431 004**

Department of Zoology

Choice Based Credit System [CBCS]



SYLLABUS

M.Sc. ZOOLOGY

(I, II, III and IV semester)

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Department of Zoology
M. Sc. First Year (Semester – I)

| Course | | | | | | |
|----------------------------|-----------------------------|-------------------------------|---------------|---------------|---------------|----------------|
| Theory course | | | | | | |
| | Paper code | Paper nomenclature | Credit | Work Load hrs | | Max/Min Marks |
| | | | | Per week | Per term | |
| Core Course | ZOO-401 | Taxonomy and Animal Diversity | 4 | 4 | 60 | 100/40 |
| | ZOO-402 | Ecology | 4 | 4 | 60 | 100/40 |
| | ZOO-403 | Biochemistry | 4 | 4 | 60 | 100/40 |
| Research component | ZOO-404 | Research Methodology | 2 | 2 | 30 | 50/20 |
| Elective Courses (ANY ONE) | ZOO-421 | Helminthology - I | 4 | 4 | 60 | 100/40 |
| | ZOO-422 | Protozoology – I | 4 | 4 | 60 | 100/40 |
| | ZOO-423 | Entomology – I | 4 | 4 | 60 | 100/40 |
| | ZOO-424 | Endocrinology - I | 4 | 4 | 60 | 100/40 |
| Compulsory course | | Constitution of India | 2 | 2 | 30 | 50/20 |
| | | Total Credit | 20 | 20 | 300 | 500/200 |
| Practical course | | | | | | |
| Paper code | Practical | Credit | Work Load hrs | | Max./Min Mark | |
| | | | Per week | per Term | | |
| ZOO -441 | Practical based on ZOO-401 | 2 | 4 | 60 | 50/20 | |
| ZOO-442 | Practical based on ZOO-402 | 2 | 4 | 60 | 50/20 | |
| ZOO-443 | Practical based on ZOO-403 | 2 | 4 | 60 | 50/20 | |
| ZOO-444 | Practical based on ZOO- 421 | 2 | 4 | 60 | 50/20 | |
| ZOO-445 | Practical based on ZOO-422 | 2 | 4 | 60 | 50/20 | |
| ZOO-446 | Practical based on ZOO-423 | 2 | 4 | 60 | 50/20 | |
| ZOO-447 | Practical based on ZOO-424 | 2 | 4 | 60 | 50/20 | |
| | Total Credit | 8 | 16 | 240 | 200 | |

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Department of Zoology
M. Sc. Ist Year Semester – II

| Course | Theory course | | | | | |
|----------------------------|-----------------------------|---------------------------|---------------|---------------|---------------|----------------|
| | Paper code | Paper nomenclature | Credit | Work Load hrs | | Max/Min Marks |
| | | | | Per week | Per term | |
| Core Course | ZOO-411 | General Animal Physiology | 4 | 4 | 60 | 100/40 |
| | ZOO-412 | Genetics | 4 | 4 | 60 | 100/40 |
| | ZOO-413 | Cell Biology | 4 | 4 | 60 | 100/40 |
| Research Component | ZOO-414 | Scientific Writing | 2 | 2 | 30 | 50/20 |
| Elective Courses (Any ONE) | ZOO-431 | Helminthology – II | 4 | 4 | 60 | 100/40 |
| | ZOO-432 | Protozoology – II | 4 | 4 | 60 | 100/40 |
| | ZOO-433 | Entomology – II | 4 | 4 | 60 | 100/40 |
| | ZOO-434 | Endocrinology - II | 4 | 4 | 60 | 100/40 |
| | | Total Credit | 18 | 18 | 270 | 450/180 |
| Practical course | | | | | | |
| Paper code | Practicals | Credits | Work Load hrs | | Max./Min Mark | |
| | | | Per week | Per Term | | |
| ZOO-451 | Practical based on ZOO-411 | 2 | 4 | 60 | 50/20 | |
| ZOO-452 | Practical based on ZOO-412 | 2 | 4 | 60 | 50/20 | |
| ZOO-453 | Practical based on ZOO-413 | 2 | 4 | 60 | 50/20 | |
| ZOO-454 | Practical based on ZOO- 431 | 2 | 4 | 60 | 50/20 | |
| ZOO-455 | Practical based on ZOO-432 | 2 | 4 | 60 | 50/20 | |
| ZOO-456 | Practical based on ZOO-433 | 2 | 4 | 60 | 50/20 | |
| ZOO-457 | Practical based on ZOO-434 | 2 | 4 | 60 | 50/20 | |
| Total Credit | | 8 | 16 | 240 | 200/80 | |

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Department of Zoology
M. Sc. Second year (Semester – III)

| Course | Theory course | | | | | |
|--|---|--------------------------------------|---------------|---------------|---------------|----------------------|
| | Paper code | Paper nomenclature | Credit | Work Load hrs | | Max/Min Marks |
| | | | | Per week | Per term | |
| Core Course | ZOO-501 | Developmental Biology | 4 | 4 | 60 | 100/40 |
| | ZOO-503 | Fundamental processes | 4 | 4 | 60 | 100/40 |
| Elective Courses (ANY ONE) | ZOO-521 | Fishery Science I | 4 | 4 | 60 | 100/40 |
| | ZOO-522 | Animal Physiology-I { Invertebrate } | 4 | 4 | 60 | 100/40 |
| | ZOO-523 | Molecular Biology- I | 4 | 4 | 60 | 100/40 |
| | ZOO-524 | Applied Parasitology-I | 4 | 4 | 60 | 100/40 |
| Research Component | ZOO-502 | Quantitative biology | 4 | 4 | 60 | 100/40 |
| | | Project Work** | 4 | 4 | 60 | Evaluated inIVthSem. |
| Service courses* (ANY ONE) | ZOO-580 | Apiculture | 4 | 4 | 60 | 100/40 |
| | ZOO-581 | Personality Development | 4 | 4 | 60 | 100/40 |
| | ZOO-582 | Pisciculture | 4 | 4 | 60 | 100/40 |
| | ZOO-583 | Sericulture | 4 | 4 | 60 | 100/40 |
| | ZOO-584 | Wild life & nature interpretation | 4 | 4 | 60 | 100/40 |
| | | Total Credit | 24 | 24 | 360 | 500/200 |
| Practical course | | | | | | |
| Paper code | Practicals | Credits | Work Load hrs | | Max./Min Mark | |
| | | | Per week | Per Term | | |
| ZOO-541 | Practicals based on ZOO-501 Developmental Biology | 2 | 4 | 60 | 50/20 | |
| ZOO-542 (Research Component) | Practicals based on ZOO-502 Quantitative biology | 2 | 4 | 60 | 50/20 | |
| ZOO-543 | Practicals based on ZOO-503 Fundamental processes | 2 | 4 | 60 | 50/20 | |
| ZOO-544 | Practicals based on zoo-521 Fishery Science I | 2 | 4 | 60 | 50/20 | |
| ZOO-545 | Practicals based on ZOO-522 Animal Physiology I | 2 | 4 | 60 | 50/20 | |
| ZOO-546 | Practicals based on ZOO-523 | 2 | 4 | 60 | 50/20 | |
| ZOO-547 | Practicals based on ZOO-524 | 2 | 4 | 60 | 50/20 | |
| | Total Credit | 8 | 16 | 240 | 200/80 | |

* Service course as decision of University and ** project work allotted

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Department of Zoology
M. Sc. Second year (Semester – IV)

| Course | Theory course | | | | | |
|--------------------------------------|-----------------------------|--------------------------------------|---------------|---------------|----------------|---------------|
| | Paper code | Paper nomenclature | Credit | Work Load hrs | | Max/Min Marks |
| | | | | Per week | Per term | |
| Core Course | ZOO-511 | Evolution and Animal behavior | 4 | 4 | 60 | 100/40 |
| | ZOO-513 | Applied Zoology | 4 | 4 | 60 | 100/40 |
| Elective Courses (Any ONE) | ZOO-531 | Fishery Science –II | 4 | 4 | 60 | 100/40 |
| | ZOO-532 | Animal Physiology – II (Vertebrates) | 4 | 4 | 60 | 100/40 |
| | ZOO-533 | Molecular Biology - II | 4 | 4 | 60 | 100/40 |
| | ZOO-534 | Applied Parasitology – II | 4 | 4 | 60 | 100/40 |
| Research Component | ZOO-512 | Methods in Biology | 4 | 4 | 60 | 100/40 |
| | | Total Credit | 16 | 16 | 240 | 400/160 |
| Practical course | | | | | | |
| Paper code | Practicals | Credits | Work Load hrs | | Max./Min Mark | |
| | | | Per week | Per Term | | |
| ZOO-551 | Practical based on ZOO-511 | 2 | 4 | 60 | 50/20 | |
| ZOO-552 (Research Component) | Practical based on ZOO-512 | 2 | 4 | 60 | 50/20 | |
| ZOO-553 | Practical based on ZOO-513 | 2 | 4 | 60 | 50/20 | |
| ZOO-554 | Practical based on ZOO- 531 | 2 | 4 | 60 | 50/20 | |
| ZOO-555 | Practical based on ZOO-532 | 2 | 4 | 60 | 50/20 | |
| ZOO-556 | Practical based on ZOO-533 | 2 | 4 | 60 | 50/20 | |
| ZOO-557 | Practical based on ZOO-534 | 2 | 4 | 60 | 50/20 | |
| Research Component * ZOO- 561 | Project work** | 4 | 4 | 120 | 100/40 | |
| | Total Credit | 12 | 20 | 360 | 300/120 | |

**** ZOO-561 is a Project work of Research component. It shall start in 3rd semester after allocation of guide/supervisor and all students will submit it in 4th semester and evaluated accordingly.**

Total Credits required obtaining M. Sc. Degree in Zoology

| Se me ster | Component | Theory Credits | Practical Credits | Total credits | |
|--------------------------------|-----------------------|-------------------|----------------------|---------------|-----|
| | | | | | |
| I | Core | 12 | 6 | 18 | 28 |
| | Elective | 4 | 2 | 6 | |
| | Research | 2 | | 2 | |
| | Constitution of India | 2# | - | 2# | |
| II | Core | 12 | 6 | 18 | 26 |
| | Elective | 4 | 2 | 6 | |
| | Research | 2 | - | 2 | |
| III | Core | 8 | 4 | 12 | 32 |
| | Elective | 4 | 2 | 6 | |
| | Research | 4 | 2+4(Project**) | 10 | |
| | Service Course* | 4* | | 4* | |
| IV | Core | 8 | 4 | 12 | 28 |
| | Elective | 4 | 2 | 6 | |
| | Research | 4 | 2+4(Project**) | 10 | |
| Total credits Sem. I+II+III+IV | | 74 | 40 | 114 | 114 |

Constitution of India to be conducted centrally

*** At least one service course from any other department**

**** Project work will start in IIIrd semester, completed and evaluated in IVth Semester End.**