

ഭരണഭാഷ മാതൃഭാഷ

കോളേജ് വിദ്യാഭ്യാസ ഡെപ്യൂട്ടി ഡയറക്ടറുടെ കാര്യാലയം, തൃശ്ശൂർ, ഫോൺ: 0487 - 2331728 ഇ-മെയിൽ: ddcolladntcr@gmail.com തീയതി: 11. 2019

നം. B2-6409../19

പ്രേഷക

ഡെപ്യൂട്ടി ഡയറക്ടർ

സീക്രട്ടറി

പ്രിൻസിപ്പാൾ, കാർമൽ കോളേജ് മാള

സർ,

വിഷയം: കോളേജ് വിദ്യാഭ്യാസ ഡെപ്യൂട്ടി ഡയറക്ടറുടെ കാര്യാലയം, തൃശ്ശൂർ- പഠനവിനോദയാത്ര-അനുമതി സംബന്ധിച്ച്.

സൂചന: താങ്കളുടെ 25.11.19...ലെ 888/2019 നമ്പർ കത്ത്.

മേൽ സൂചനയിലേക്ക് ശ്രദ്ധ ക്ഷണിക്കുന്നു. താങ്കളുടെ അപേക്ഷയും അനുബന്ധരേഖകളും പരിശോധിച്ചു. 02.12.2019 മുതൽ 04.12.2019 വരെ കത്തിനോടൊപ്പം സമർപ്പിച്ച ഷെഡ്യൂൾ അനുസരിച്ച് തിരുവനന്തപുരം, പാലക്കാട്, മലപ്പുറം എന്നിവിടങ്ങളിലേക്ക് 16 വിദ്യാർത്ഥികളുമായി (16/..... Girls/Boys) നടത്തുന്ന പഠനയാത്രയ്ക്ക് അനുമതി നൽകുന്നു. സമർപ്പിച്ച പ്രകാരം പഠനയാത്ര നടത്തേണ്ടതും ഏതെങ്കിലും തരത്തിൽ മാറ്റം വരുത്തുന്ന പക്ഷം മുൻകൂട്ടി അനുമതി വാങ്ങേണ്ടതുമാണ്. പഠനയാത്രയിൽ നിർബന്ധമായും ഒരു സ്ഥിരം വനിതാ അദ്ധ്യാപിക ഉണ്ടായിരിക്കേണ്ടതാണ്. 2019 അനുബന്ധത്തിൽ ഉൾപ്പെടെ അനുബന്ധം, MSc അനുബന്ധം ഉൾപ്പെടെ അനുബന്ധം എന്നിവയ്ക്ക് മാത്രം 02 അനുബന്ധമാണ്. വിശ്വസ്തതയോടെ,

Sahar Loni. B
ഡെപ്യൂട്ടി ഡയറക്ടർ 29.11.19
DEPUTY DIRECTOR OF COLLEGIATE EDUCATION THRISSUR



CARMEL COLLEGE MALA

Nationally Re-Accredited with A Grade (Third cycle)

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List of MSc Ist Semester students 2019-20

1.

1	AMBILY KM
2	AMMINI C J
3	ATHIRA P K
4	BRIGITH VENEESA D'SILA
5	FANY JOSEPH
6	GREESHMA KM
7	JESNA T J
8	K S SILPA
9	KAVYA EC
10	KEERTHANA T P
11	LIJI K
12	NEENA A S
13	SANGEETHA BETSON
14	SELMA JOHNSON
15	YARDLY MARIYA BENNY
16	VAISHNA THAMBAN

TEACHERS

1. Dr.BINDHU. K.B.

2.Dr.SR.SINJUMOL THOMAS

3.BINCY DEVASSY (Lab assistant)



Lachmy
Principal
Carmel College
Mala

UNIVERSITY OF CALICUT				
M.Sc. Programme in Botany (CBCSS) (from 2019 admissions onwards)				
Programme, structure of courses and distribution of credits				
Course	Title	Credits		
		Internal	External	Total credits
Semester I				
BOT1C01	Phycology, Bryology, Pteridology and Gymnosperms	20%	80%	5
BOT1C02	Mycology and Lichenology, Microbiology and Plant Pathology	20%	80%	5
BOT1C03	Angiosperm Anatomy, Angiosperm Embryology, Palynology and Lab Techniques	20%	80%	5
BOT1L01	Practicals of Phycology, Bryology, Pteridology, Gymnosperms, Mycology and Lichenology	20%	80%	2.5
BOT1L02	Practicals of Microbiology, Plant Pathology, Angiosperm Anatomy, Angiosperm Embryology, Palynology and Lab Techniques.	20%	80%	2.5
Semester II				
BOT2C04	Cell Biology, Molecular Biology and Biophysics	20%	80%	5
BOT2C05	Cytogenetics, Genetics, Biostatistics, Plant Breeding and Evolution	20%	80%	5
BOT2C06	Plant Ecology, Conservation Biology, Phytogeography and Forest Botany	20%	80%	5
BOT2L03	Practicals of Cell Biology, Molecular Biology, Biophysics and Cytogenetics	20%	80%	2.5
BOT2L04	Practicals of Genetics, Biostatistics, Plant Breeding, Plant Ecology, Conservation Biology, Phytogeography and Forest Botany	20%	80%	2.5
Semester III				
BOT3C07	Plant Physiology, Metabolism and Biochemistry	20%	80%	5
BOT3C08	Angiosperm Morphology, Angiosperm Taxonomy and Plant Resources	20%	80%	5
BOT3C09	Biotechnology and Bioinformatics	20%	80%	5
BOT3L05	Practicals of Plant Physiology, Metabolism, Biochemistry, Angiosperm Morphology and Angiosperm Taxonomy	20%	80%	2.5
BOT3L06	Practicals of Plant Resources, Biotechnology and Bioinformatics	20%	80%	2.5
Semester IV				
BOT4E01	Elective I	20%	80%	5
BOT4E02	Elective II	20%	80%	5
BOT4L07	Practicals of Electives	20%	80%	2
BOT4D01	Dissertation	20%	80%	5
BOT4V01	Viva voce	0%	100%	3
Total				80 credits
Audit Courses (To be completed within the first three semesters by the students)				
ACIAEC	Ability Enhancement Course	100%	0%	4
AC2PCC	Professional Competency Course	100%	0%	4
(The credits earned through the audit courses will not be added for SGPA/CGPA)				
Duration of Theory Examinations (External) as well as Practical Examinations (External) will be 3 hours				
1 credit = 1.25 hours of teaching; There will be no regular classes/workload for audit courses.				
1 theory/dissertation hour= 1.5 hours of workload; 1 practical hour= 1 hour of workload				



CP04. PRACTICALS OF PHYCOLOGY, BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS, MYCOLOGY AND LICHENOLOGY (0.5x6= 3 hours)

Phycology

1. Collection, preparation and submission of algal herbarium (5 numbers).
2. Collection and study of the types mentioned below and their identification up to generic level using algal monographs:

Chlorophyta: Pediastrum, Scenidesmus, Hydrodictyon, Ulva, Cladophora, Pithophora, Bulbochaeta, Cephaleuros, Draparnaldiopsis, Bryopsis, Codium, Caulerpa, Halimeda, Desmids (Closterium, Cosmarium), Nitella.

Xanthophyta: Botrydium.

Bacillariophyta: Biddulphia, Coscinodiscus, Cymbella.

Phaeophyta: Ectocarpus, Dictyota, Padina, Turbinaria.

Rhodophyta: Batrachospermum, Gracilaria, Champia.

Bryology

1. Morphological and structural study of representative members of the following groups using whole mount preparations, dissections and transactions:

Asterella, Targionia, Cyathodium, Lunularia, Pallavicinia, Dumortiera, Porella, Anthoceros, Sphagnum and Bryum.

Pteridology

1. Collection, preparation and submission of five herbarium sheets of pteridophytes.
2. Study of vegetative and reproductive features of Lycopodium, Ophioglossum, Angiopteris, Osmunda, Lygodium, Ceratopteris, Pteris, Asplenium, Blechnum, Cyathea, Gleichenia, Trichomanes, Salvinia and Azolla.
3. Study of the following fossils: Rhynia, Lepidodendron, Sphenophyllum, Calamites, Calamostachys, Zygopteris and Anachoropteris.
4. Spore germination and development of prothallus in Knop's Agar medium.

Gymnosperms

1. Identification of petrifications, compressions, impressions: Lyginopteris, Heterangium, Medullosa, Trignocarpus, Glossopteris, Caytonia, Pentaxylon and Cordaites.
2. Study of vegetative and reproductive structures of Zamia, Ginkgo, Pinus, Cryptomeria, Cupressus, Araucaria, Agathis, Podocarpus, Cephalotaxus, Ephedra and Gnetum.

Mycology

1. Critical study of the following types with the help of fresh/preserved materials by making suitable micropreparations giving emphasis on systematic position, details of vegetative and reproductive structures: Stemonitis, Saprolegnia, Phytophthora, Albugo, Mucor, Pilobolus, Saccharomyces, Xylaria, Chaetomium, Peziza, Puccinia, Auricularia, Polyporus, Ganoderma, Lycoperdon, Dictyophora, Geastrum, Cyathus, Aspergillus, Curvularia, Alternaria, Fusarium, Colletotrichum, Parmelia, Usnea.

Practical records:

Submission of certified record of practicals at the time of terminal evaluation.

Field work:

2 days of field work for the in situ study of the types of the above areas of study and submission of a field report.

CP05. PRACTICALS OF MICROBIOLOGY, PLANT PATHOLOGY, ANGIOSPERM TAXONOMY, ANGIOSPERM EMBRYOLOGY, PALYNOLOGY AND LAB TECHNIQUES. (0.5+0.5+1+0.25+0.25+0.5=3 hours)

Microbiology

1. Test for the presence of coliform bacteria in contaminated water.
2. Isolation of Eubacteria and Cyanobacteria from soil by dilution plate method.
3. Isolation of pure bacterial culture by streak plate method.
4. Staining of bacteria (negative staining, Gram staining and spore staining).
5. Demonstration of bacterial motility by hanging drop method.
6. Morphological studies on Scytonema, Aphanocapsa, Spirulina, Oscillatoria, Anabaena.



Plant Pathology

1. Submission of five herbarium sheets of pathological specimens.
2. Detailed lab study of the following diseases:
Bunchy top of banana, Bacterial blight of paddy, Bud rot of coconut, Mahali of Arecanut, Powdery mildew of rubber, Abnormal leaf fall of rubber, tikka disease of Ground nut, Late blight of potato, Blister blight of tea, wheat rust, coffee rust, grey leaf spot of coconut, Phytophthora foot rot of pepper, rhizome rot of ginger and turmeric, angiospermic parasites- Viscum and Dendrophoe.
3. Technique of isolation and pure culture of pathogens.

Angiosperm Anatomy

1. Study of anomalous secondary growth in roots and stems of Aristolochia, Strychnos, Amaranthaceae, Nyctaginaceae, Bignoniaceae and Agavaceae.
2. Nodal anatomy of different types.
3. Leaf anatomy: epidermal peels and TS of lamina.

Embryology

1. Study of anther development of Datura.
2. Preparation of dissected whole mounts of microsporangium.
3. Study of megaspore mother cell, megaspore and embryo sac.
4. Study of the receptivity of stigma and in situ germination of pollen.
5. Dissection of stages in the development of embryo and endosperm.
6. Pollen germination using hanging drop technique.
7. Demonstration of intra ovarian pollination.

Palynology

1. Analysis of honey for microscopic examination of pollen.
2. Calculation of percentage of viable pollen by using T Z test.
3. Study of pollen wall by acetolysis.

Lab Techniques

1. Measurement of microscopic objects - Micrometry.
2. Camera lucida drawing - calculation of magnification
3. Double stained permanent sections - free hand section, Microtome serial sections.
4. Preparation of whole mounts, macerations and smears.
5. Submission of 10 permanent slides - which should include microtome serial sections, free hand sections, macerations, whole mounts and smears.

Practical records:

Submission of certified record of practicals at the time of terminal evaluation.

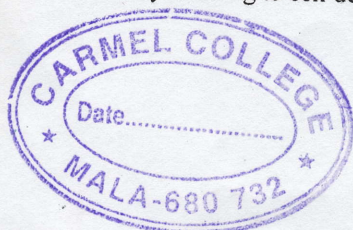
Field work:

2 days of field work for the in situ study of the types of the above areas of study and submission of a field report.

CT06. CELL BIOLOGY, MOLECULAR BIOLOGY AND BIOPHYSICS (2.5 + 2.5 + 1 = 6 hours per week)

Cell Biology

1. The nucleus. Interphase nucleus- Chromatin organization- nucleosomes, scaffold. Organization of eukaryotic chromosome. Heterochromatin- constitutive, facultative and condensed. Euchromatin. Satellite DNA. Chromosome banding and its significance.
2. Cell reproduction: Cell cycle. Specific events G₁, S, G₂ and M phases. Significance of G₀. Control of cell cycle. Significance. Gene expression during cell cycle. Mitotic Inducers.
3. Meiosis: types, synaptonemal complex, significance of meiosis. Genetic control and consequences of meiosis. Restriction points and check points. Cell cycle regulation of meiotic events- behaviour of sex chromosomes in meiosis- suppression of DNA replication between Meiosis I and II. Meiotic defects and human diseases.
4. Programmed cell death- necessity, classes, signals. Genetic analysis of cell death. Proteins regulating apoptosis. Pathways leading to cell death- significance. Aging- cellular and extracellular. Cell signaling.



Department of Botany

As part of the academic curriculum two day field trip conducted for first year PG students to Thiruvanthapuram, ponmudi, kannyukumari(2nd -5 December 2019). Dr. Bindu K B went along with the students. It was really a wonderful experience to the students. The trip aims to study the. Different aspects of research techniques in TBGRI, and the collection of algae as part of the syllabus.



Visit to JNTBRI, Thiruvananthapuram



Visit to Bamboo garden JNTBRI, Thiruvananthapuram



Algal collection at Rasthakkadu , Kanyakumary

As part of the academic curriculum three day field trip conducted for third year UG students to Mysore, Koorge and Wayanad (10th -13 December 2019). Dr Sr Kochuthressia KP and Dr Sr Sinjumol Thomas went along with the students. It was really a wonderful experience to the students. The trip aims to study the biodiversity, phytogeography and taxonomic of plants. Students visited various institutions mentioned in the syllabus.

Study tour with our students



