



STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule – November 2015 – April 2016

Department : Botany  
Name/s of the Faculty : Dr. H.Shakila and Dr. Nirmala Kanagaraj  
Course Title : Bryophyta, Pteridophyta and Gymnosperms  
Course Code : 15BT/MC/BP 24  
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Nov. 12 - 18, 2015 (Day Order 1 to 6)	Unit 1: Classifications of Bryophyta & Characteristics features of Hepaticopsida, Anthocerotopsida & Bryopsida	Lecture	Text book of Botany Vol II Bryophytes, Pteridophytes and Gymnosperms by S.N Pandey, P.S. Trivedi and A. Misra	Oral questioning after each class
Nov. 19 - 26, 2015 (Day Order 1 to 6)	Classifications of Bryophyta & Characteristics features of Hepaticopsida, Anthocerotopsida & Bryopsida	Lecture through OHP	Text book of Botany Vol II Bryophytes, Pteridophytes and Gymnosperms by S.N Pandey, P.S. Trivedi and A. Misra	Assingment
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	Unit 2: Bryophyta: A detailed study of the thallus structure, anatomy and reproduction of Hepaticopsida – <i>Porella</i>	Lecture	Bryophytes by H.N. Srivastava	

Dec 4 - 11, 2015 (Day Order 1 to 6)	Anthocerotopsida - <i>Anthoceros</i> Bryopsida – <i>Polytrichum</i>	Lecture	Bryophytes by H.N. Srivastava	
Dec. 12- 18, 2015 (Day Order 1 to 6)	Unit 3: Classification of Pteridophytes General characteristics of Lycopside, Sphenopsida and Pteropsida	Lecture	Text book of Botany VolII Bryophytes, Pteridophytes and Gymnosperms by S.N Pandey, P.S. Trivedi and A. Misra	Quiz
Dec. 19, 2015 Day Order 1	A detailed study of plant body anatomy and reproduction of Lycopside – <i>Lycopodium</i>	Lecture	Morphology of Pteridophytes by K.R. Sporne	
Jan. 4, 2016 Day Order 2	<b>Revision</b>	-	-	-
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	Sphenopsida – <i>Equisetum</i> Filices – <i>Marsilea</i>	Lecture	Morphology of Pteridophytes by K.R. Sporne	
Jan.18 - 25, 2016 (Day	Unit 4: Classification of Gymnosperms Characteristics features of Cycadopsida and Gnetopsida	Lecture	Text book of Botany VolII Bryophytes, Pteridophytes and	

Order 1 to 6)			Gymnosperms by S.N Pandey, P.S. Trivedi and A. Misra	
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	A detailed study of the plant body, anatomy and reproduction of Cycadopsida – <i>Cycas</i>	Lecture	Gymnosperms by Srivastava H.N	
Feb.3 - 10, 2016 (Day Order 1 to 6)	Gnetopsida– <i>Gnetum</i> Unit 5: Geological Time scale	Lecture	Gymnosperms by Srivastava H.N Paleobotany by chandrashekar	
Feb.11 - 17, 2016 (Day Order 1 to 6)	Unit 5: Fossil forms Pteridophyta- <i>Lepidodendron</i> , <i>Stigmaria</i> , <i>Lepidostrobus</i> and <i>Lepidocarpon</i>	-do-	-do-	-do-
Feb.18 - 24, 2016 (Day Order 1 to 6)	Gymnospermae - <i>Williamsonia</i>	Lecture	-do-	Quiz
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016	REVISION			

(Day Order 1 to 6)		-do-	-do-	Quiz
Mar. 10 - 17, 2016 (Day Order 1 to 6)	Model Practical			
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. Geradette Davey  
**Course Title** : General Botany 11  
**Course Code** : 15BT/AC/GB24  
**Shift** : 1

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	1.1 Salient features of Bryophytes, Pteridophytes and Gymnosperms 1.2 Life Cycle of Funaria	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany A Text Book of Botany Vol.11- Bryophytes, Pteridophytes and Gymnosperms by S. N. Pandey, P.S. .Trivedi and A. Mishra.	Quiz
Nov. 19 - 26, 2015 (Day Order 1 to 6)	1.3 Life Cycle of Adiantum	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany A Text Book of Botany Vol.11- Bryophytes, Pteridophytes and Gymnosperms by	Diagram Test

			S. N. Pandey, P.S. .Trivedi and A. Mishra.	
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	1.4 Life Cycle of Cycas	Lecture	Outlines of Botany by K. N. Rao and R V. Naraswamy A Text Book of Botany Vol.11- Bryophytes, Pteridophytes and Gymnosperms by S. N. Pandey, P.S .Trivedi and A. Mishra.	Diagram Test
Dec 4 - 11, 2015 (Day Order 1 to 6)	1.4 Life Cycle of Cycas	Lecture	-do-	Diagram Test
Dec. 12-18, 2015 (Day Order 1 to 6)	5.1 Principles of Plant Tissue Culture 5.2 Oyster and Button Mushroom	Lecture	Horticulture by N. Kumar Embryology of Angiosperms by S.S. Bhojwani and S.P. Bhatnagar	Quiz
Dec. 19, 2015 Day Order 1	Revision			
Jan. 4, 2016 Day Order 2	Revision			
Jan.5 - 9, 2016	<b>C.A. Test I</b>			

Jan.11 - 14, 2016 (Day Order 3 to 6)	2.1 Photosynthesis	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany Text Book of Plant Physiology by V. Verma	Diagram Test
Jan.18 - 25, 2016 (Day Order 1 to 6)	2.1 Photosynthesis	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany Text Book of Plant Physiology by V. Verma	Diagram Test
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	2.2 Respiration	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany Text Book of Plant Physiology by V. Verma	Diagram Test
Feb.3 - 10, 2016 (Day Order 1 to 6)	4.1 Bonsai Technique	Lecture	Horticulture by N. Kumar Horticultural Science by J. Janick	Quiz
Feb.11 - 17, 2016 (Day Order 1 to 6)	4.2 Cut Flowers and 4.3 Flower	Demonstration	Horticulture by N. Kumar Horticultural Science by J. Janick	Quiz

	Arrangement			
Feb.18 - 24, 2016 (Day Order 1 to 6)				
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	3.1 Plant Growth Regulators	Lecture	Outlines of Botany by K. N. Rao and R V. Narayaswany Text Book of Plant Physiology by V. Verma	Quiz
Mar. 10 - 17, 2016 (Day Order 1 to 6)	3.2 Photoperiodism and Vernalization	Lecture	Outlines of Botany by K. N. Rao and R V. N Narayaswany Text Book of Plant Physiology by V. Verma	Quiz
March 18 & 21, 2016 (Day Order 1 & 2)	Revision			



**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. S. Sathya Bama  
**Course Title** : Anatomy and Embryology of Angiosperms  
**Course Code** : 11BT/MC/AE44  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	1.1 Meristems: Classification, Organisation of shoot apex and root apex.  1.2. Lateral meristems: Vascular cambium-structure and formation.	Lecture using PPT & chalk and board	Plant Anatomy by B.P.Pandey  Anatomy of Seed Plants by Singh, V., P.C. Pande and D.K. Jain	Oral questioning
Nov. 19 - 26, 2015 (Day Order 1 to 6)	1.3. Cork Cambium: Periderm -Phellem, Phellogen and Phelloderm, Development, location, Morphology of Bark, commercial bark, Protective tissues of monocot and Lenticels.	-do-	-do-  Plant Anatomy by Fahn	-do-
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	2.1. Secondary xylem: vessels, Tracheids, Wood parenchyma and rays, Sap wood, heartwood, Annual rings, Dendrochronology, Compression wood and Tension wood.	-do-	-do-  Applied Plant Anatomy by Cutler, D.F	-do-

Dec 4 - 11, 2015 (Day Order 1 to 6)	Unit2.2. Secondary phloem: Sieve tubes, Companion cells, phloem parenchyma and fibres  Unit3.1.Primary structure of stem and root	-do-	-do-	-do-
Dec. 12-18, 2015 (Day Order 1 to 6)	Unit3.2.Secondary growth of normal dicot root and dicot stem.  Unit3.3.Anomalous growth: Primary and Secondary structures.	-do-	-do-	-do-
Dec. 19, 2015 Day Order 1	Unit3.4. Primary thickening meristem in monocots	-do-	-do-	-do-
Jan. 4, 2016 Day Order 2	<b>Revision</b>	-	-	-
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	Unit3.5.Anomalous secondary thickening in monocot stem - <i>Dracaena.</i>	Lecture through Black board	Plant Anatomy by B.P.Pandey  Anatomy of Seed Plants by Singh,V., P.C. Pande and D.K. Jain	Oral questioning

Jan.18 - 25, 2016 (Day Order 1 to 6)	Unit4.1.Nodal Anatomy – Unilacunar, trilacunar and multilacunar nodes.  Unit4.2.Leaf – Internal structure of Isobilateral dicot	-do-	-do-	-do-
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	Unit4.2 : Isobilateral and Centric monocot leaf.  Unit4.3. Leaf abscission  Unit4.4.Epidermis: epidermal appendages and stomatal types	-do-	-do-	-do- Assignment
Feb.3 - 10, 2016 (Day Order 1 to 6)	Unit 5.1. Microsporangium: Microsporogenesis –Male gametophyte.  Unit5.2.Megasporangium: Megasporeogenesis – Female gametophyte -- Monosporic (Polyonium)	Lecture through PPT	Embryology of angiosperms by Bhojwani and Bhatnagar;  Angiosperm Embryology by Muneeswaran	Quiz
Feb.11 - 17, 2016 (Day Order 1 to 6)	Unit 5.2 Female Gametophyte - Bisporic (Allium) and tetrasporic (Peperomia)	-do-	-do-	-do-
Feb.18 - 24, 2016 (Day Order 1 to 6)	Unit5.3. Double Fertilization  Unit 5.4Endosperm - types and functions	-do-	-do-	Quiz
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			

Mar. 02 - 09, 2016 (Day Order 1 to 6)	Unit5.5.Embryo – Development of Dicot embryo – Capsella  Development of Monocot embryo – Luzula forsteri	-do-	-do-	Quiz
Mar. 10 - 17, 2016 (Day Order 1 to 6)	Unit 5.6. Apomixis  REVISION	-do-	-do-	Quiz
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. S. Sathya Bama & Dr. H. Shakila  
**Course Title** : Waste Management  
**Course Code** : 11BT/GE /WM44  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	Unit1 Introduction: 1.1.Solid waste & liquid waste 1.2. Waste generation and sources-Municipal, Kitchen, Garden, Agriculture & industrial	Lecture through PPT	A Textbook of environmental Sciences by Purohit Environmental Biotechnology, Battacharya	Assignment
Nov. 19 - 26, 2015 (Day Order 1 to 6)	Unit 2 Recycling of waste 2.1. Composting- Principles, process and factors affecting composting 2.2. Biodung method	Lecture  Practical	Vermicomposting for sustainable Agriculture by Gupta,P. K. Vermicology by Ismail, S.A.	
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	2.3. Vermiculture biotechnology: Types of earth worms, culturing of earthworms, vermibed maintenance	Lecture cum PPT	Vermicology by Ismail, S.A.	Oral questioning

Dec 4 - 11, 2015 (Day Order 1 to 6)	2.4. Vermicomposting: Principle & process 2.5. types of vermicomposting-Heap & Pit Method	Lecture cum demo	-do-	
Dec. 12-18, 2015 (Day Order 1 to 6)	Unit 3 Sewage Disposal 3.1. Primary treatment 3.2. Secondary Treatment- Septic tanks, Trickling filters and oxidation pond	Lecture through PPT	A Textbook of environmental Sciences by Purohit Microbiology by Prescott,Harley and Klein	Oral questioning
Dec. 19, 2015 Day Order 1	Anaerobic - Sludge digestion	Lecture	-do-	
Jan. 4, 2016 Day Order 2	Tertiary Treatment- Chemical	Lecture	-do-	
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	Tertiary Treatment- Ozone and Reverse Osmosis	Lecture	-do-	
Jan.18 - 25, 2016 (Day Order 1 to 6)	Unit 4 Biomonitoring of water quality & water purification 4.1. Test for water purity- coliform test and Membrane filter technique	Lecture	Microbiology by Powar (Vol. 2) Analysis of waste water for use in Agriculture by Rachel	
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	4.2. Testing for purity of water- Coliform test, Physical Analysis of water-pH, Color,	Practical	Analysis of waste water for use in Agriculture by Rachel	Submission of result

Feb.3 - 10, 2016 (Day Order 1 to 6)	4.2. Testing for purity Turbidity, TDS, chemical Analysis of water – salinity, Hardness and nitrate content	Practical	Analysis of waste water for use in Agriculture by Rachel	Submission of result
Feb.11 - 17, 2016 (Day Order 1 to 6)	4.3. Water treatment – steps involved in water Treatment in a typical water purification plant	Lecture	-do-	
Feb.18 - 24, 2016 (Day Order 1 to 6)	Unit 5 Transformation of wastes 5.1. Recycling of paper	Lecture through PPT	Modern Technology of waste Management by NIIR Board	
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	5.2. E-waste	-do-	-do-	
Mar. 10 - 17, 2016 (Day Order 1 to 6)	REVISION			
March 18 & 21, 2016 (Day Order 1 & 2)	-----			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. H. Shakila  
**Course Title** : Applied Biotechnology  
**Course Code** : 11BT/MC/AB64  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	1.1. Totipotency, Culture techniques: Equipment, Media, Explant, Callus formation.	Lecture cum demonstration	Elements of biotechnology by Gupta P.K	Oral Questioning
Nov. 19 - 26, 2015 (Day Order 1 to 6)	1.1.Organogenesis. 1.2.Root Culture, Shoot culture, Anther and pollen culture.	Lecture	Biotechnology by Satyanarayana Plant cell and Tissue Culture by Narayanaswamy.S	-do-
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	1.3.Cell culture, Protoplast culture: Isolation, Culture, Regeneration	Lecture	Plant Biotech by Gupta,P.K, Plant cell and Tissue Culture by Narayanaswamy.S	Assingment
Dec 4 - 11, 2015 (Day Order 1 to 6)	1.4. Somaclonal Variation. 1.5 Somatic hybridization and cybrid	Lecture	Molecular Biotechnology – Principles and Applications of Recombinant DNA by Glick and Pasternak	
Dec. 12-18, 2015 (Day Order 1 to 6)	1.6. Applications: Horticulture, Pharmaceutical industry.	Lecture	Agricultural Biotechnology by Purohit; Plant Biotech by Gupta,P.K	Quiz



1 to 6)				
Dec. 19, 2015 Day Order 1	2.1. Selection- Pureline and Clonal hybridization  Mutation breeding(MAS & MAB)	Lecture	Biotechnology by Satyanarayana	
Jan. 4, 2016 Day Order 2	<b>Revision</b>	-	-	-
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	3.1. Transgenic plants for crop improvement: Herbicide resistance, Insect resistances against viral, bacterial and fungal pathogens, Biofertilizers	Lecture through OHP	Agricultural Biotechnology by Purohit Biotechnology-Fundamentals and Applications by Purohit S.S and Mathur S.K,	
Jan.18 - 25, 2016 (Day Order 1 to 6)	3.2. Transgenic plants- Edible vaccines: Transgenic plants as recombinant protein production systems,	Lecture	Biotechnology-Fundamentals and Applications by Purohit S.S and Mathur S.K,	
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	3.2 Choice of plant species for recombinant vaccine production	Lecture	Industrial Microbiology by Patel A.H. Industrial Microbiology by Prescott and Dunn	
Feb.3 - 10, 2016 (Day Order 1 to 6)	4.1 Biofuels: Bioethanol 4.2 Biohydrogen and Gobargas	Lecture	Industrial Microbiology by Patel A.H. Industrial Microbiology by Prescott and Dunn	
Feb.11 - 17, 2016 (Day Order	4.3. Biodiesel: Petroplants 5.1. fermentation- Media, Equipment Innoculum	-do-	-do-	-do-

1 to 6)				
Feb.18 - 24, 2016 (Day Order 1 to 6)	5.2. Scale up and Down Stream processing	-do-	Biotechnology by Satyanarayana	Quiz
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	5.3. Dairy- Cheese(Cheddar, Camembert and Roquefort) Bakery- Bread  5.3 Beverages- Wine types and Beer	-do-	Industrial Microbiology by Patel A.H.	Quiz
Mar. 10 - 17, 2016 (Day Order 1 to 6)	5.3. Enzyme- Amylase 5.4. Vitamin-B <sub>12</sub>	-do-	Industrial Microbiology by Patel A.H.	
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			



**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. Nirmala Kanagaraj  
**Course Title** : Molecular Biology  
**Course Code** : 11BT/MC/ML64  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	UNIT – 1 Introduction to Molecular biology DNA and RNA as genetic material	Lecture	Cytology By P.S. Verma	Oral questioning
Nov. 19 - 26, 2015 (Day Order 1 to 6)	Mutations - Introduction and types	Lecture PPT	Cytology By P.S. Verma Cell and Molecular biology By Ajoy Paul	Problems
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	DNA – Types - Linear, Fragility Denaturation and Renaturation  Molecular structure of RNA	Lecture OHP	P.S. Verma Cytology By Molecular Biology By Wolfe	
Dec 4 - 11, 2015 (Day Order 1 to 6)	Types of RNA  RNA types - Detail account of the different types of RNA	Lecture OHP	P.S. Verma Cytology By Molecular Biology By Wolfe	Presentation by students

Dec. 12-18, 2015 (Day Order 1 to 6)	Unit 2. Introduction to Transcription & Translation  Transcription in Prokaryotes and Eukaryotes	Lecture OHP	A Text book of Biotechnology by S. Sathyanarayana  Genome management in Prokaryotes	Oral questioning
Dec. 19, 2015 Day Order 1	Processing of Eukaryotic mRNA	Lecture OHP	A Text book of Biotechnology by S. Sathyanarayana	
Jan. 4, 2016 Day Order 2	<b>Revision</b>			
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	Unit 3: Genetic code Mechanism of Protein synthesis	Lecture	Molecular biology By Clarke	Problems
Jan.18 - 25, 2016 (Day Order 1 to 6)	Unit 4: Operon concept Structural genes	Lecture	Cytology By P.S. Verma	QUIZ
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	Lac Operon	Lecture	Operon Lecture Cytology By P.S. Verma Genome management in Prokaryotes	
Feb.3 - 10, 2016	Trp operon,	Lecture		Oral questioning

(Day Order 1 to 6)			Genome nagememant in Prokaryots	
Feb.11 - 17, 2016 (Day Order 1 to 6)	Operon - ,ara	Lecture	Genome nagememant in Prokaryots	
Feb.18 - 24, 2016 (Day Order 1 to 6)	Genetic imprinting	Lecture	Molecular biology By Clarke	
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	Unit 5: Signal transduction - Introduction Types of Signal transduction	Lecture	Cell and Molecular biology By Cooper	SCRB BOOK ON ARTICLES ON MOLECULAR BIOLOGY
Mar. 10 - 17, 2016 (Day Order 1 to 6)	MAP Kinase pathway	Lecture	Cell and Molecular biology By Cooper	
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. Priscilla Jebakumari  
**Course Title** : PLANT PHYSIOLOGY  
**Course Code** : 11BT/MC/PP64  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	Unit 1:Water relations in plants 1.1 Water potential 1.2 Transpiration: Mechanism of stomatal transpiration, ATP driven exchange pump, Role of ABP	Lecture through OHP	Plant Physiology by Devlin Modern plant Physiology by Sinha.R.K	Oral questioning
Nov. 19 - 26, 2015 (Day Order 1 to 6)	1.3 Water movement across the root and xylem Unit 2: Mineral nutrients: 2.1 Micro and Macro nutrients	Lecture	Text Book of Plant Physiology by Verma.V	Quiz
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	2.2 Mechanism of mineral salt absorption: Theories	Lecture	Text Book of Plant Physiology by Verma.V	
Dec 4 - 11, 2015 (Day Order 1 to 6)	2.3 Transport of organic solutes	Lecture	Text Book of Plant Physiology by Verma.V	
Dec. 12-18, 2015	2.4 Source of Nitrogen, Biochemistry of Nitrogen	Lecture	Plant Physiology by Devlin	Assignment

(Day Order 1 to 6)	fixation, Nitrate and Nitrite reduction			
Dec. 19, 2015 Day Order 1	2.4 Assimilation of Nitrite and Ammonium ions	Lecture	Plant Physiology by Devlin	
Jan. 4, 2016 Day Order 2	<b>Revision</b>	-	-	-
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	Unit 3: Photosynthesis 3.1 Principles of light absorption by plants	Lecture	Plant Physiology by Devlin Modern plant Physiology by Sinha.R.K	Oral questioning
Jan.18 - 25, 2016 (Day Order 1 to 6)	3.2 CO <sub>2</sub> assimilation pathway: C3, C4 cycles and CAM, Photorespiration	Lecture	Plant Physiology by Devlin Modern plant Physiology by Sinha.R.K	
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	Unit 4: Respiration 4.1 Respiratory quotient, Fermentation and Anaerobic processes	Lecture	Plant Physiology by Devlin Modern plant Physiology by Sinha.R.K	
Feb.3 - 10, 2016 (Day Order 1 to 6)	4.2 Glycolysis, E-D pathway, Glyoxylate cycle.	Lecture	Plant Physiology by Devlin Modern plant Physiology by Sinha.R.K	
Feb.11 - 17, 2016 (Day Order 1 to 6)	4.3 Kerbs cycle, Electron flow components, ET pathway, Oxidative phosphorylation and Cyanide resistant pathway	-do-	Text Book of Plant Physiology by Verma.V	-do-
Feb.18 - 24,	<b>Revision</b>			



2016 (Day Order 1 to 6)			-	
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	Unit 5: Growth and Phytohormones 5.1 Growth: Kinetics and growth curve 5.2 Auxin, ABA, Cytokinin	Lecture	Text Book of Plant Physiology by Verma.V	Quiz
Mar. 10 - 17, 2016 (Day Order 1 to 6)	5.2 Gibberellic acid and Ethylene 5.3 Photoperiodism, Florigen concept and Vernalization	Lecture	Text Book of Plant Physiology by Verma.V	
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule – November 2015 – April 2016**

**Department** : Botany  
**Name/s of the Faculty** : Dr. Priscilla Jebakumari  
**Course Title** : WASTE MANAGEMENT  
**Course Code** : 11BT/GE/WM44  
**Shift** : I

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov. 12 - 18, 2015 (Day Order 1 to 6)	UNIT – 1 Wastes: Solid and Liquid wastes	Lecture	Environmental Biotechnology, Battacharya	Assignment
Nov. 19 - 26, 2015 (Day Order 1 to 6)	Waste generation and sources – Municipal,	Lecture	Environmental Biotechnology, Battacharya	Assignment
Nov. 27 – Dec 3, 2015 (Day Order 1 to 6)	Kitchen, Garden, Agriculture and Industrial	Lecture	Environmental Biotechnology, Battacharya	
Dec 4 - 11, 2015 (Day Order 1 to 6)	UNIT – 2 2.1 Composting – Principles, process and factors affecting composting	Lecture with PPT	Vermicomposting for sustainable Agriculture, Gupta Vermiculture and Organic farming, Sathe Vermitech, Sultan Ahmed Ismail	Quiz
Dec. 12-18,	2.2 Vermiculture Biotechnology: Types of	Lecture cum demo in the field	Modern Technology of	

2015 (Day Order 1 to 6)	earthworm,		Waste Management, NIIR Board	
Dec. 19, 2015 Day Order 1	Culturing of earth worms, Vermibed Maintenance	Lecture cum demo in the field	Vermitech, Sultan Ahmed Ismail	
Jan. 4, 2016 Day Order 2	<b>Revision</b>	-	-	-
Jan.5 - 9, 2016	<b>C.A. Test I</b>			
Jan.11 - 14, 2016 (Day Order 3 to 6)	2.3 Vermicomposting: Principle and Process	Lecture	Vermicomposting for sustainable Agriculture, Gupta Modern Technology of Waste Management, NIIR Board	Oral questioning
Jan.18 - 25, 2016 (Day Order 1 to 6)	<b>Practicals</b> 1 Composting – Biodung method 2 Vermicomposting – Pit method	Lecture cum demo	Vermicomposting for sustainable Agriculture, Gupta	
Jan.27 – Feb. 2, 2016 (Day Order 1 to 6)	UNIT – 3 3.1 Primary Treatment 3.2 Secondary Treatment	Lecture	Microbiology by Prescott,Harley and Klein	
Feb.3 - 10, 2016 (Day Order 1 to 6)	3.2.3 Tertiary treatment – Chemical, Ozone and Reverse Osmosis	Lecture	Microbiology by Prescott,Harley and Klein	
Feb.11 - 17, 2016 (Day Order 1 to 6)	3.2.1. Aerobic – Septic tanks, Trickling filters and Oxidation ponds	Lecture	Microbiology by Pelczar Microbial Ecology by Maier	

to 6)				
Feb.18 - 24, 2016 (Day Order 1 to 6)	REVISION			
Feb.25 – Mar 01, 2016	<b>C.A. Test II</b>			
Mar. 02 - 09, 2016 (Day Order 1 to 6)	3.2.2. Anaerobic – Sludge digestion	Lecture	Microbiology by Pelczar Microbial Ecology by Maier	
Mar. 10 - 17, 2016 (Day Order 1 to 6)	REVISION			
March 18 & 21, 2016 (Day Order 1 & 2)	REVISION			