Syllabus
For M.Sc 9th Semester Courses in Botany
(June 2020 onwards)

- Contents:
- Theory Syllabus for Courses:
  - SBOT0901 – Biostatistics
  - SBOT0902 – Plant Pathology
  - SBOT0903 – Applied Botany
  - SBOT0904 – Angiosperms- I (Phylogeny & Nomenclature)

- Practical Course Syllabus for: SBOT0901PR, SBOT0902PR, SBOT0903PR, SBOT0904PR
- Evaluation and Assessment guidelines.

M.Sc.-II Botany   **Course code: SBOT0901**
Course Title: BIOSTATISTICS

Learning Objectives:
1. To understand the basic concepts of statistics and apply them.
2. To learn the concepts to analyze multivariate data.
3. To use open source computer programs like R or PSPP for statistical analysis of data.

Number of lectures: 60

Unit 1   **(15 lectures)**
Understanding data structure
Designing studies: experimentation, natural experiments, temporal dependence, replication-randomization, independence,. Variables: categorical vs continuous, dependent vs independent; classes of experiment design, probability theory.

Unit 2   **(15 lectures)**
Descriptive Statistics
Measures of central tendency, location and spread of data, types of distribution, parametric and non-Parametric test. Hypothesis testing: Type I and type II errors, null hypothesis, test of significance, correlation and its assumptions; students-t test and its assumptions, chi square test and its assumption.

Unit 3   **(15 lectures)**
Data Analysis
Regression and its assumption: linear vs non-linear models, variance estimation, model selection (AIC), ANOVA and its assumption, ANOCOVA, MANOVA, comparing means, median analysis, variance analyzing, 2-way contingency tables.

Unit 4   **(15 lectures)**
Multivariate Statistics
Comparing means of 2 or more variables, multivariate normality measurement of distance ordination- PCA, FA, NMDS, advantages vs disadvantages of cluster, discriminant analysis, multiple regression.

List of Recommended Reference Books

1. Bailey, N.T.J. 1994. Statistical methods in Biology. Cambridge University Press, UK.
2. Chainy, G.B.N., Mishra, G. and Mohanty, P.K. 2005. Biostatistics. Oscar Publications India, Ltd.
3. Forthofer, R. N., Lee, E. S. and Hernandez, M. 2006. Biostatistics: A guide to design, analysis and discovery. Academic Press, London.
4. Glantz, S.A. 2005. Primer of Biostatistics, McGraw-Hill Inc., London.

5. Miller Jr, R.G., Efron, B., Brown Jr, B.W. and Mosses L.E. 1980. Biostatistics
6. Casebook. Wiley-Interscience Publishers, New York.
7. Prasad S. 2000. Fundamentals of Biostatistics. Emkey publications, Delhi.
8. Rosner, B. 2005. Fundamentals of Biostatistics. Duxbury Press.

Practical: SBOTPR0901

I) Using the software that provides a basic set of capabilities: frequencies, cross tabs comparison of means (t-tests and one way ANOVA); linear regression, logistic regression and re-ordering data, non-parametric tests, factor analysis, cluster analysis, principal component analysis, chi-square analysis.

II) Analyze the data for Hypothesis testing, Normal deviate test, chi-square test, correlation and regression, test of significance of means, paired and unpaired t-test, application of analysis of variance (ANOVA)

III) Basics of R software.

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M.Sc.-II Botany   **Course code: SBOT0902**
Course Title: PLANT PATHOLOGY

Learning Objectives:
1. To distinguish the various symptoms of plant diseases and understand host pathogen relationship.
2. To analyze the preventive and control measures and the defense strategies used by plant host.
3. To learn the method of studying plant diseases and recognize the factors responsible for causing the plant diseases.
4. To understand the whole process of disease cycle in some economically important plants.

Number of lectures: 60

Unit 1   **(15 lectures)**
Fungi and Lichens
Classification of fungi (C. J. Alexopoulos & C.W. Mims, 1979); various spore bearing organs, their arrangements, spore release and dispersal. Study of *Penicillium, Claviceps, Stemonitis,* and *Trichoderma.* Lichen: Thallus, morphology and reproduction in *Parmelia* and *Usnea.*

Unit 2 (15 lectures)
Plant pathogens, Symptoms and Classification of plant diseases
Plant pathogens, host pathogen relationship, dissemination of pathogens, epidemiology; disease forecasting. Classification of plant diseases. Symptoms: necrotic, atrophic, hypertrophic. host defense mechanism.

Unit 3 (15 lectures)
Plant diseases
Study of following diseases: wart disease of potato, white rust of crucifers, red rot of sugarcane, downy mildew of pea / grape, tikka disease of ground nut, powdery mildew of cereals / grasses, looser smut of wheat, brown spot of rice. citrus canker, bacterial brown rot of potato, tobacco mosaic, leaf curl of potato, root knot disease of potato / sugarcane.

Unit 4 (15 lectures)
Prevention and Control of Plant diseases
Prevention, control, prophylaxis, therapy and immunization. Post-harvest diseases, protection of stored products. Microbes responsible for spoilage in storage: Diseases of post-harvest durables and perishables, factors affecting spoilage, management of storage fungi and decay of perishables.

List of Recommended Reference Books

1. Smith, Gilbert M; Cryptogamic Botany Algae & Fungi Volume 1; McGraw-hill book Comp, 1955.
2. Vasishtha B.R. And A. K. Sinha- Botany for degree students Part 2 FUNGI; S. Chand & Company Ltd.
3. Alexopoulos, Constantine J.; Mims, Charles W; Introductory mycology; 3rd edition; New Delhi :Wiley Eastern Limited , 1983.
4. Kar, Ashok Kumar;Gangulee, Hirendra Chandra; College botany : Volume II; 2nd edition; Kolkata : New Central Book Agency (P) Ltd , 1989, 2006.
5. Srivastava, J.P.; An introduction to fungi; 2nd edition; Allahabad : Central Book Depot, 1962.
6. Chopra, G.L.; A classbook of fungi; 7th edition; Jullundur : S. Nagin & Co., 1964.
7. Sharma, O.P.; Textbook of algae, New Delhi: Tata Mcgraw-Hill Publishing Company Limited, 1986.

Practical: SBOTPR0902

I) Type Study of *Penicillium, Stemonitis, Saprolegnia, Phytophthora, Xylaria, Peziza, Daedalea, Claviceps* and *Trichoderma*.
II) Study the symptoms and causal organism of the plant diseases mentioned in theory (three from group 1 and one each from the rest); To identify the various symptoms of plant diseases.

III)   Field trip to any Agricultural Institute / University.

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M.Sc.-II Botany   **Course code: SBOT0903**
Course Title: APPLIED BOTANY

Learning Objectives:
1. To practice the bioinformatics software and learn the organization of biological data,
2. To learn the methods in green synthesis of nanoparticles.
3. To comprehend the technique of plant tissue culture and its application if plant breeding.
4. To recognize the microbial and phytoremedial methods used in cleaning environment.

Number of lectures: 60

Unit 1   **(15 lectures)**
Bioinformatics
Organization of biological data; querying in databases; gene finding, motif finding and multiple sequence alignment; protein sequence analysis (theory and algorithms); exploration of databases, retrieval of desired data.

Unit 2   **(15 lectures)**
Nanotechnology
Introduction, synthesis of nanomaterials- various methods for green synthesis of nanomaterial-polysaccharide, tollens, irradiation, biological and polyoxometalates methods. Biosynthesis of nanoparticles using biological agents like bacteria, fungi, actinomycetes, yeast, algae and plants.

Unit 3   **(15 lectures)**
Tissue culture and plant breeding
Plant tissue culture: concepts of cell differentiation, pathways for in-vitro regeneration; Applications: micropropagation, meristem culture, embryo rescue, synseed production, and cryopreservation. Plant Breeding methods: selection, hybridization, polyploidy, induced mutation, in-vitro cultivation of plant cells, somatic hybrid plants, gene transfer.

Unit 4   **(15 lectures)**
Microbiology and phytoremediation
Microbiology: Biocontrol of plant diseases, microbes and quality of environment; biodegradation of pesticides, toxic chemicals and agricultural residues.   Phytoremediation: process, phytotechnologies for cleanup of pollutants in the environment, biodiversity prospecting for phytotechnologies.

List of Recommended Reference Books

1. Baxevanis, A. D. and Ouellate, B. F. F. 2009 Bioinformatics: A Practical Guide to the analysis of genes and proteins. John-Wiley and Sons Publications, New York.
2. Introduction to nanoscience and nanotechnology, CRC Press, Tylor and Francis Group, Boca Raton, G. L. Hornyak, H. F. Tibbals, J. Dutta and J J. Moore.
3. Acquaah G, 2007. Principles of Plant Genetics and Breeding, Blackwell Publishing Ltd. USA.
4. Dubey, R. C. 2014 Advanced Biotechnology. S. Chand & Co. Pvt. Ltd., New Delhi.
5. Agarwal, K.C. 2001, Environmental Biology, Nidi Pubi. Ltd., Bikaner
6. Callow, J. A., Ford-Lloyed, B. V. and Newbury, H. J. 1997. Biotechnology and Plant Genetic Resources: Conservation and Use, CAB International, Oxon UK.

Practical: SBOTPR0903

I)   Motif finding, BLAST, MSA, phylogenetic tree, DNA barcoding; Synthesis of nanoparticles, its characterization and antimicrobial activity. Induction of polyploidy using chemical agents;   Preparation of explants, surface sterilization and initiation of culture.

II)   Demonstrating phytoabsorption of contaminants by hydroponics. Effect of effluents containing heavy metals on germination of suitable seed material. In-vitro allelopathic studies. Study of any four bio-pesticides and their market products.

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M.Sc.-II Botany   **Course code: SBOT0904**
Course Title: ANGIOSPERMS- I (PHYLOGENY & NOMENCLATURE)

Learning Objectives:
1. To apply technological tools in unraveling the mystery of evolution and in understanding phylogeny.
2. To learn the technique of plant nomenclature and understand typification.
3. To learn the diversity, present status and interrelationships among different families apart from their characteristic features and economic importance.

Number of lectures: 60

Unit 1   (15 lectures)
Evolution

Plesiomorphic and apomorphic characters, character weighing, the effects of evolutionary theory on systematic, monographic, and floristic development. Primitive versus advanced, homology and analogy, parallelism and convergence.

Unit 2   (15 lectures)
Phylogeny, Phylogenetic Techniques

Use of cladistic in classification; understanding phylogeny, constructing phylogeny, monophyly, paraphyly and polyphyly; patterns of variation and phylogenetic trees. Building trees- rooting technique, distance methods, maximum likelihood methods, bootstrapping using trees, phyllocode.

Unit 3   (15 lectures)
Nomenclature

ICBN 1830-Paris Code to 2018-Shenzhen code; major adaptations considered in these International Botanical Congress; important rules of ICBN, typification, type concept and types of type, basionym, homonym, tautonym, taxonomic and nomenclature synonyms.

Unit 4   (15 lectures)
Families

Study of the following families: Nymphaeaceae, Onagraceae, Urticaceae, Araceae, Balsaminaceae, Boraginaceae, Gentianaceae, Cyperaceae, Lentibulariaceae and Commelinaceae. A detailed study of the present status, affinities, phylogeny and interrelationships of these families.

List of Recommended Reference Books

1. Gurcharan Singh, Plant Systematics - An Integrated approach 3rd edition. 2010.
2. Naik, V.N., Taxonomy of Angiosperms, Tata McGraw Hill Publishing Company. 1984.
3. Pullaiah T., Text Book of Biosystematics – Theory and Practice. Regency Publications. 2013
4. Turland, N., The Code Decoded. A User's guide to the International Code of Nomenclature for Algae, Fungi and Plants. Koeltz Scientific Books. Berlin. Germany. 2013.
5. Takhtajan, A. L. 1997. Diversity and classification of Flowering Plants. New York.

Practical: SBOTPR0904

I)   Study of angiosperm families mentioned in the course 904 for theory.

II)   Use of keys for identification of genus and species.

III)   Writing of species description using taxonomic terminology.

IV)   Cluster analysis of any family using Cladistics techniques based on morphological characters. (practical will continue for the whole semester).

V)   Preparation of 10 herbarium specimens.

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Evaluation and Assessment: SBOT0901, SBOT0902, SBOT0903 and SBOT0904 courses

Evaluation (Theory): Total marks per course - 100.
    CIA- 40 marks
    CIA 1: Written test -20 marks
    CIA 2: Written Test / Assignment / Presentation / Field Trip & Report -20 marks
    End Semester Examination – 60 marks
    One question from each unit for 15 marks, with internal choice. Total marks per question
    with choice -20 to 25.

Evaluation of SBOTPR0901, SBOTPR0902, SBOTPR0903, SBOTPR0904 (Practical)
Total marks per Practical course - 50.
End Semester Practical Examination – (SBOTPR0901- 50 marks, SBOTPR0902- 50
marks, SBOTPR0903- 50 marks, SBOTPR0904- 50 marks)

Template for SBOT0901 Course End Semester Examination in Semester 9

UNITS	KNOWLEDGE	UNDERSTANDING	APPLICATION and ANALYSES	TOTAL MARKS- Per unit
1	5	5	5	15
2	5	5	5	15
3	5	5	5	15
4	5	5	5	15
-TOTAL - Per objective	20	20	20	**60**
% WEIGHTAGE	33.33	33.33	33.33	**100%**

Template for SBOT0902 Course End Semester Examination in Semester 9

UNITS	KNOWLEDGE	UNDERSTANDING	APPLICATION and ANALYSES	TOTAL MARKS- Per unit
1	8	7	0	15
2	6	6	3	15
3	6	6	3	15
4	7	8	0	15
-TOTAL - **Per objective**	27	27	6	**60**
% WEIGHTAGE	45	45	10	**100%**

Template for SBOT0903 Course End Semester Examination in Semester 9

UNITS	KNOWLEDGE	UNDERSTANDING	APPLICATION and ANALYSES	TOTAL MARKS- Per unit
1	6	6	3	15
2	6	6	3	15
3	6	6	3	15
4	6	6	3	15
-TOTAL - **Per objective**	24	24	12	**60**
% WEIGHTAGE	40	40	20	**100%**

Template for SBOT0904 Course End Semester Examination in Semester 9

UNITS	KNOWLEDGE	UNDERSTANDING	APPLICATION and ANALYSES	TOTAL MARKS- Per unit
1	7	8	0	15
2	5	5	5	15
3	6	6	3	15
4	6	6	3	15
-TOTAL - **Per objective**	24	25	11	**60**
% WEIGHTAGE	40	41.66	18.33	**100%**

St. Xavier's College, Mumbai.
ASSESSMENT OF WRITTEN ASSIGNMENT- TYPE - I

Dept. of Botany; Course Code _____ Date _____ Roll No _____

Name of student: _____ UIDNo _____ Marks _____ / 20

Title of Assignment: _____

Assessment Grid : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows. In boxes that have more than one set of marks, cancel out the marks that are not applicable and circle the correct marks.

Assessment of Written Assignment: 20 Marks

100%	ASSIGNMENT	80-100% (17-20 Marks)	60-80% (13-16 Marks)	40- 60% (9-12 Marks)	20-40% (5-8 Marks)	0-20% (0-4 Marks)
60 %	**Content** Impression of wide reading (research), good knowledge and comprehensive understanding. Evidence of thoughtful input. Ability to critique,	Excellent	Good	Satisfactory	Poor	Very Poor
12	Bibliography mentioned -------- Marks -------	12 / 11 / 10	9 / 8	7 / 6	5 / 4	3 / 2 / 1
30 %	**Organization** Effective presentation, logical format, clear statement of ideas, relevant details, sequence of information and ideas could be easily followed, references / footnotes /	Effective organization	Few problems	Many problems	Inadequate presentation. Ineffective format, communication of ideas, lack of relevant details – but an attempt	No attempt to organize
06	endnotes -------- Marks -------	6	5	4	3	2
5%	**Vocabulary**	Richness of vocabulary	Very good range of vocabulary with some errors	Good range of vocabulary with some errors	Small range of vocabulary with errors	Little of no effort to demonstrate vocabulary knowledge
01	-------- Marks -------	1	1	0.5	0.5	0
5%	**Grammar, spellings, mechanics**	Grammar, spellings punctuations correct	Very few errors	Some errors	Many errors	No effort
01	-------- Marks -------	1	1	0.5	0.5	0

Comments:

Name and Signature of Faculty _____.

St. Xavier's College, Mumbai.
ASSESSMENT OF WRITTEN ASSIGNMENT- TYPE - II

Dept. of Botany; Course Code _____   Date _____ Roll No _____

Name of student: _____ UIDNo _____ Marks _____ / 20

Title of Assignment: _____

Assessment Grid : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows. In boxes that have more than one set of marks, cancel out the marks that are not applicable and circle the correct marks.

Assessment of Written Assignment: 20 Marks

100%	ASSIGNMENT	80-100% (17-20 Marks)	60-80% (13-16 Marks)	40- 60% (9-12 Marks)	20-40% (5-8 Marks)	0-20% (0-4 Marks)
50 %	**Content** Impression of wide reading (research), good knowledge and comprehensive understanding. Evidence of thoughtful input. Ability to critique, Bibliography mentioned	Excellent	Good	Satisfactory	Poor	Very Poor
10	-------- Marks -------	10 / 9	8 / 7	6 / 5	4 / 3	2 / 1
30 %	**Organization** Effective presentation, logical format, clear statement of ideas, relevant details, sequence of information and ideas could be easily followed, references / footnotes / endnotes	Effective organization	Few problems	Many problems	Inadequate presentation. Ineffective format, communication of ideas, lack of relevant details – but an attempt 2	No attempt to organize
06	-------- Marks -------	6 / 5	4	3		1
10%	**Vocabulary**	Richness of vocabulary	Very good range of vocabulary with some errors	Good range of vocabulary with some errors	Small range of vocabulary with errors	Little of no effort to demonstrate vocabulary knowledge
02	-------- Marks -------	2	1.5	1	1	0.5
10%	**Grammar, spellings, mechanics**	Grammar, spellings punctuations correct	Very few errors	Some errors	Many errors	No effort
02	-------- Marks -------	2	1.5	1	1	0.5

Comments:

Name and Signature of Faculty _____.

St. Xavier's College, Mumbai.
ASSESSMENT OF BOTANY FIELD TRIP REPORT

Dept. of Botany; Course Code _____ Date _____ Roll No _____

Name of student: _____ UIDNo _____ Marks _____/ 20

Place of visit _____

Assessment Grid : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows

(20)	Field Trip and Report	80-100% 17-20 Marks	60-80% 13-16 Marks	40-60% 09-12 Marks	20-40% 05-08 Marks	0-20% 0-04 Marks
30% (06)	**Organization of report** ----Marks---- -	Introduction about the location, vegetation, Botanical Names, Family, Local name, Description using Botanical Term, reporting all the species seen, Handwritten or typed. 6	Few mistakes, few species missing from the report 5	Many mistakes 4	Inadequate presentation, ineffective format, lack or relevant detail, but an attempt 3	No attempt to organize 2
50% (10)	**Content** ----Marks----	Excellent reporting of all the species observed in the field, ecological and morphological data, 10 / 9	Good reporting, species observed in the field but few of them missing in the list 8	Satisfactory, many species or relevant data missing from the report 6	Poor, inadequate and insufficient data or just a list of the species without any data. 5	Very poor, no data 4 / 3
10% (02)	**Conclusion** ----Marks----	Excellent conclusion based on self observation. Type of forest and vegetation 2	Good conclusion, comments not independent 2 / 1	Satisfactory, but insufficient 1 / 0.5	Poor, irrelevant conclusion 0.5	Very poor, no conclusion 0.5
5% (01)	**References** ----Marks---- -	Proper references, in required format 1	Proper references but no format 1	Few references 0.5	Irrelevant references 0	No references 0
5% (01)	**Attendance / participation** ----Marks---- -	Attended and participated actively 1	Attended and participated 1	Infrequent Participation 0.5	No participation 0	Absent 0

Comments:

Name and Signature of Faculty _____.

St. Xavier's College, Mumbai.

ASSESSMENT OF INDIVIDUAL ORAL PRESENTATION -A

Dept. of Botany; Course Code _____ Date _____ Roll No _____

Name of student: _____ UIDNo _____ Marks _____/ 20

Title of oral presentation: _____

Assessment Grid : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows

Presentation: 30 % (06 marks)

30%	PRESENTATION	80-100%	60-80%	40- 60%	20-40%	0-20%
10 %	**Presentation skills**	Varied rate of delivery, Changed pitch for emphasis, No distracting mannerisms ,good eye contact , Confident body language, Connected with audience	Good but a few weaknesses	Good but a few weaknesses with one pronounced weakness	Several Weaknesses	No speech variation, Distracting mannerisms, no eye contact, dull, and reading from notes/visual aids
2.0	------- Marks -------	2.0	1.5	1.0	1.0	0.5
10 %	**Use of Visuals (Efforts to Aid Presentation)**	Very good, relevant visuals, good font size/ image size, Appropriate number of words and images per slide, good colour schemes	Good but a few weaknesses	Good but a few weaknesses with one pronounced weakness	Several Weaknesses	Very poor visuals, visuals did not contribute to the presentation
2.0	------- Marks -------	2.0	1.5	1.0	1.0	0.5
5%	**Timing and Pace of Talk**	Right length and well paced	Right Length but too slow or too rushed	Long or short *and* too slow or too rushed	Too long *or* too short	Had to be stopped *or* less than 50% of the allocated time
01	------- Marks -------	1.0	0.5	0.5	0	0
5%	**Audibility and Comprehensibility**	Very clear and very precise	Clear, quite precise	Almost inaudible *and* difficult to understand	Almost inaudible *or* very difficult to understand	Inaudible **or** completely incomprehensible
01	------- Marks -------	1.0	1.0	0.5	0.5	0

Total marks for presentation: _____ out of 06 marks.

Content: 70% (14 Marks)

70%	CONTENT	80-100%	60-80%	40- 60%	20-40%	0-20%
35%	**Knowledge and Understanding Innovation** Impression of wide reading, good knowledge and complete understanding	Excellent	Good	Satisfactory	Poor	Very Poor
07	------- Marks -------	7.0	6.0 / 5.0	4.0 / 3.0	2.0	1.0
10%	**Structure of Presentation** Logical Structure, Clear Introduction, Body and Relevant Conclusion, sequence of information and ideas could be easily followed , Citation of source material	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- Marks -------	2.0	2.0	1.0	0.5	0.5
5%	**Key Points/ Themes** Identified Key Points, Kept to the points throughout the presentation- did not wander	Excellent	Good	Satisfactory	Poor	Very Poor
01	------- Marks -------	1.0	1.0	0.5	0.5	0
10%	**Ability to answer Questions** Answers accurate and full of confidence	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- Marks -------	2.0	1.5	1.0	0.5	0
10%	**Creation of Interest/ Audience Participation** Created interest in the topic	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- Marks -------	2.0	1.5	1.0	1.0	0.5

Total for content: _____ out of 14; Total marks for oral presentation: _____ out of **20**

Comments:

Name of the Faculty _____.

Signature of the Faculty _____

St. Xavier's College, Mumbai.

ASSESSMENT OF INDIVIDUAL ORAL PRESENTATION -B

Dept. of Botany; Course Code _____ Date _____ Roll No _____

Name of student: _____ UIDNo _____ Marks _____/ 20

Title of oral presentation: _____

Assessment Grid : Place one tick in each appropriate row. Overall mark should reflect the positions of ticks in the individual rows

Presentation: 40 % (8 marks)

40%	PRESENTATION	80-100%	60-80%	40- 60%	20-40%	0-20%
15 % 03	**Presentation skills** -------- Marks -------	Varied rate of delivery, Changed pitch for emphasis, No distracting mannerisms ,good eye contact , Confident body language, Connected with audience 3.0	Good but a few weaknesses 2.5	Good but a few weaknesses with one pronounced weakness 2.0	Several Weaknesses 1.5	No speech variation, Distracting mannerisms, no eye contact, dull, and reading from notes/visual aids 1.0
15 % 03	**Use of Visuals (Efforts to Aid Presentation)** -------- Marks -------	Very good, relevant visuals, good font size/ image size, Appropriate number of words and images per slide, good colour schemes 3.0	Good but a few weaknesses 2.5	Good but a few weaknesses with one pronounced weakness 2.0	Several Weaknesses 1.5	Very poor visuals, visuals did not contribute to the presentation 1.0
5% 01	**Timing and Pace of Talk** -------- Marks -------	Right length and well paced 1.0	Right Length but too slow or too rushed 1.0	Long or short *and* too slow or too rushed 0.5	Too long *or* too short 0.5	Had to be stopped *or* less than 50% of the allocated time 0
5% 01	**Audibility and Comprehensibility** -------- Marks -------	Very clear and very precise 1.0	Clear, quite precise 1.0	Almost inaudible *and* difficult to understand 0.5	Almost inaudible *or* very difficult to understand 0.5	Inaudible **or** completely incomprehensible 0

Total marks for presentation: _____ out of 08 marks.

Content: 60% (12 Marks)

60%	CONTENT	80-100%	60-80%	40- 60%	20-40%	0-20%
25%	**Knowledge and Understanding Innovation** Impression of wide reading, good knowledge and complete understanding	Excellent	Good	Satisfactory	Poor	Very Poor
05	------- **Marks** -------	5.0	4.0	3.0	2.0	1.0
10%	**Structure of Presentation** Logical Structure, Clear Introduction, Body and Relevant Conclusion, sequence of information and ideas could be easily followed , Citation of source material	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- **Marks** -------	2.0	1.5	1.0	0.5	0.5
5%	**Key Points/ Themes** Identified Key Points, Kept to the points through out the presentation- did not wander.	Excellent	Good	Satisfactory	Poor	Very Poor
01	------- **Marks** -------	1.0	1.0	0.5	0.5	0
10%	**Ability to answer Questions** Answers accurate and full of confidence	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- **Marks** -------	2.0	1.5	1.0	0.5	0
10%	**Creation of Interest/ Audience Participation** Created interest in the topic.	Excellent	Good	Satisfactory	Poor	Very Poor
02	------- **Marks** -------	2.0	1.5	1.0	0.5	0

Total for content: _____ out of 12; Total marks for oral presentation: _____ out of **20**

Comments:

Name of the Faculty _____.

Signature of the Faculty _____