

Vidya Prasarak Mandal's
B. N. Bandodkar College of
Science, Thane

Syllabus for

Program: Diploma
Course: Research Scholar Programme

With effect from academic year

2014 - 2015

Approved by

College Development Committee (CDC) in July 2018

PREAMBLE

Science Square Committee and Research Committee started Research Scholar Programme in Academic year 2014-2015 with the prime objective of inculcating research aptitude among undergraduates. This course is also intended to have all round development of student's personality. Research Scholar Programme is of 24 months duration for which S.Y. B.Sc. students are enrolled after an entrance test. The entrance test involves multiple choice questions which are based on syllabi of 12th Science and F.Y.B.Sc. The course content consists of theory involving 5 units (2 credits i.e. 60 hrs) and practical including mini research project (2 credits i.e. 100 hrs). The course not only includes various modules of research methodology but also topics based on presentation skills, writing proficiency, computational tools and environmental- societal aspects. The final evaluation of students is done using different criteria such as assignments and report of each module, report of mini research project and its oral presentation.

Course Outcomes:

- Course will produce well groomed students with improved logical and exploratory skills, enhanced literary proficiency, oratory ability and presentation techniques.
- It will enrich knowledge of students beyond regular syllabi.
- Student may become vigilant about surrounding environment and prove to be ethical researcher and responsible citizen.
- Course can act as an opportunity to explore one's research potential which may help in building career as scientist or corporate employees.

Teaching-Learning Objectives:

- To instill ability of scientific investigation
- To extract rational and analytical thinking through modules based on research methodology
- To explore literature from research point of view using various web based resources
- To enrich information of appropriate methodology required to conduct research project
- To enhance reading and writing abilities by reviewing books, research papers, thesis, etc
- To introduce concept of IPR and patenting
- To teach basic computational tools (MS word, excel and power point presentation)
- To utilize statistical knowledge in research
- To upgrade talent of presenting research in public using poster and oral presentation
- To improve personal presentation skills involving body language and oratory ability
- To give exposure to good health practices (yoga, managing/healing negative emotions)
- To groom in order to face professional interviews and group discussion
- To train to execute event management
- To sensitize towards various environmental and social issues

Syllabus of Diploma Course

Research Scholar Programme

- **Eligibility:** Completed F.Y.B.Sc. in any Science Subjects
- **Duration:** 24 Months
- **Admission Criterion:** Entrance Test (100 Marks)
(Test is based on 12th Science and F.Y.B.Sc. Topics in form of MCQs)
- **Course Fee:** Rs. 2500/- per student

Course Content

UNIT	TOPICS	Duration in hours
THEORY		
I	Research Methodology Part I	10
II	Research Methodology Part II	13
III	Communication Skills	17
IV	Editing and Presentation Skills	08
V	Environmental and Societal Aspects	12
	Total Hrs	60 (2 Credits)
PRACTICAL		
Mini Research Project		100 (2 Credits)
THEORY + PRACTICAL = 4 CREDITS		

Syllabus of
Diploma Course: Research Scholar Programme

Theory

UNIT	SUB-TOPICS	Duration (Total 60 Hrs) 2 Credits
I	<u>Research Methodology Part I</u> a) Research orientation b) How to select topic c) Preparation of research proposal d) Preparation of research paper e) IPR and Patent f) Instrumentation	10
II	<u>Research Methodology Part II</u> a) Use of library b) Reference work c) Review of research paper d) Poster presentation e) Presentation – oral ppt f) Book review g) Use of stats in research	13
III	<u>Skill Development Part I</u> a) Management of stress and anger b) Soft skills c) Yoga d) Event management e) Heal your life f) Personality development	17
IV	<u>Skill Development Part II</u> a) Editing news letter b) How to write an application c) Preparation of resume d) Group discussion e) Computer skills	08
V	<u>Environmental and Societal Aspects</u> a) Interaction with nature b) Ecotourism c) Social responsibility d) Industry visit	12

Practical

Mini Research Project <ul style="list-style-type: none">✓ Individual/Group (2-4 students) Research project✓ Table work of minimum 3-4 months✓ Project writing (Introduction, Objectives, materials & Methods, Results & Discussion)✓ Power Point Presentation of Research-Project✓ Assessment by Referee	Duration Total 100 Hrs 2 Credits
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Evaluation Scheme

Theory Examination = 50 Marks

- Attendance (75% and more) = 20 Marks
 - Assignments based on each topic = 20 Marks
- (Total number of assignments: 25 each carrying 10 marks & reduced to 20%)
- Module Report = 10 Marks

Practical Examination = 50 Marks

- Project Work-done & Report = 30 Marks
- Oral Presentation & Viva-voce = 20 Marks

➤ Total of Theory Examination	50 Marks
➤ Total of Practical Examination	50 Marks
➤ Grand Total	100 Marks

Duration

	Theory	Practical
Duration in terms of Hours	60	100
Working Per day	2 Hours	2 Hours
No. of Working Days	30	50
No. of weeks	05	09
Course will be conducted throughout the year as per availability of Resource Person and Students		