

UNIVERSITY OF MUMBAI

No.UG/ICC/ 2015-16/115
Mumbai-400 032
29th October, 2015

The Co-Ordinator,
Sub-Centre, Ratnagiri,
University of Mumbai,
P-61, MIDC, Mirjole,
Rantagiri-415639.

Madam,

I am to invite your attention to the Ordinances, Regulations, and Syllabi relating to the Part time Certificate Course in Physico-Chemical Hydrology under Sindhu Swaddhyay Sanstha and to inform you that the recommendation made by the Faculty of Science at its meeting held on 11th August, 2015 has been accepted by the Academic Council at its meeting held on 31st August, 2015 **vide** item No.4.29 and subsequently approved by the Management Council at its meeting held on 31st August, 2015 **vide** item No.12 and that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 54 (1) and 55 (1) of the Maharashtra Universities Act, 1994 and the Ordinances 6219 and 6220 and Regulations 8950 & 8951 and the syllabus for the Part time Certificate Course in Physico-Chemical Hydrology under Sindhu Swaddhyay Sanstha has been introduced, which is available on the University's web site (www.mu.ac.in) and that the same has been brought into force with effect from the academic year 2015-16.

Yours faithfully


REGISTRAR

A.C/4.29 /31/08/2015

M.C/16/31/08/2015

No. UG/115-A of 2015-16

MUMBAI-400 032

29th October, 2015

Copy forwarded with compliments for information to:-

- 1) The Dean, Faculty of Science,
- 2) The Director, Board of Colleges and University Development,
- 3) The Controller of Examinations,
- 4) The Co-Ordinator, University Computerization Centre.


REGISTRAR

PTO...

उपकेंद्र रत्नागिरी
मुंबई विद्यापीठ,
पी-६१, एमआयडीसी, मिरजोळे,
रत्नागिरी - ४१५ ६३९
दूरध्वनी : ०२३५२-२३० ०८८, २३० ०८६
फॅक्स क्रमांक : ०२३५२-२३० ०४४

University of Mumbai



मुंबई विद्यापीठ

SUB-CENTRE, RATNAGIRI

University of Mumbai,
P-61, MIDC, Mirjole,
Rantagiri - 415 639
Tel. No. : 02352-230 088, 230 086
Fax No. : 02352-230 044

Date: 15-05-2015

AC 29-5-15

Item No. 4.33

NOTE

Sindhu Swaddhyay sanstha established by the University of Mumbai in the academic year 2014-15 successfully conducting M.Sc- Zoology (Oceanography Marine science and aquaculture) at Vidyanagri campus Kalina Mumbai. It is time now to expand the activities along coastline of 720 kms to achieve the goals of catering entire coastline in the jurisdiction of the University. Further it is also necessary to introduce more programmes / courses. It is therefore proposed to introduce following cert course at Ratnagiri Sub-Centre, University of Mumbai.

--Sd--

Vinayak dalvie

Academic Co-Ordinator

Sindhu Swaddhyay Sanstha

--Sd--

Dr.Pandurang Y.Patil

Co-Ordinator

Ratnagiri Sub-Centre

**University of Mumbai,
Sindhu Swaddhyay Sanstha
Ratnagiri Sub-Centre, Ratnagiri.**

O.6219 :- Part time Certificate Course in Physico –chemical Hydrology

- 1. Name of the Course: Part time Certificate Course in Physico –chemical Hydrology.**
- 2. Vision:** To develop skill force for basic hydrological analysis essential in chemical oceanography, aquaculture, management of aquatic environment and applications in industry and monitoring /governing authorities.
- 3. Mission:** To equip students with theoretical knowledge and impart practical training as envisaged in the vision. Thus enabling the students to acquire additional applied skills while pursuing the fulltime programme / occupation.

4. Objectives of the course :

It is well felt need that Analysis experts need to develop concern about environment. Therefore, University of Mumbai, Sindhu Swaddhyay Sanshta and Ratnagiri Sub-Centre, Ratnagiri has decided to start this type of interdisciplinary Certificate course. This course is useful for students, working analysts and future analysts. Along with theoretical background more emphasis will be given on skill development through practicals. The objectives of the course are:

- a. To develop skill force for basic hydrological analysis essential in chemical oceanography, aquaculture, management of sustainable aquatic environment.
- b. To understand environmental issues in general regarding water quality.
- c. To understand sampling methods of ground water, pore water and surface water.
- d. To understand basic principles involved in water quality and applications in industry.
- e. To develop the skill for chemical oceanography, environmental management in the industrial sector.
- f. To enabling the students to acquire additional applied skills while pursuing the fulltime program.
- g. To improve environmental awareness and remedial measures with respective to water quality and a social aspect.

5. **O.6220** :- **Eligibility:** H.S.C (Scicence)
6. **Intake capacity** : 20 candidates per batch
7. **R.8950** :- **Duration:** One Year
Part time
Three days a week with session of three hours.

8. Credits: 4 credits

9: R.8951 :-Fees: Rs 10,000/- (Ten thousand per student)

Honorarium: 500 Rs per Clock Hour: theory/ Practical (50 % for fulltime faculty of the University)

Centre Incharge: Rs 10,000/- per Month (Additional Charge)

8. Contents:

Module I – Introduction to water monitoring

- 1.1 Introduction to water chemistry
- 1.2 Physical and chemical properties of water
- 1.3 Concept of waste water
 - a) Effluent
 - b) Influent
- 1.4 Water quality monitoring
- 1.5 Selection of sampling location
- 1.6 Sampling
- 1.7 Preservation of water samples

Module – II – Physical and Chemical Analysis of Water and Effluents

- 3.1 Temp,
- 3.2 Turbidity
- 3.3 Acidity

- 3.4 Alkalinity
- 3.5 Biological oxygen demand (BOD)
- 3.6 Conductivity and specific conductance
- 3.7 Chemical oxygen demand (COD)
- 3.8 Residual Chlorine
- 3.9 Dissolved oxygen
- 3.10 Fluoride
- 3.11 Hardness
- 3.12 Total nitrogen
- 3.13 Nitrate
- 3.14 Nitrite
- 3.15 Oil and grease
- 3.16 pH
- 3.17 Phosphorus
- 3.18 Total solids (TS)
- 3.19 Total dissolved solids (TDS)
- 3.20 Total suspended solids (TSS)
- 3.21 Sodium
- 3.22 Potassium

Module -III – Treatability studies of Waste water

- 8.1 Jar test (Coagulation, Flocculation)
- 8.2 Mixed liquor suspended solids
- 8.3 Mixed liquor volatile suspended solids
- 8.4 Sludge volume index (SVI)
- 8.5 Volatile fatty acids (VFAs)