

PG DIPLOMA IN WATER SANITATION & HYGIENE (WASH)

1. GENERAL OBJECTIVES OF THE COURSE: TO ENABLE THE STUDENTS:

- The links between water and sanitation
- The nature of, and the threats posed by, environmental diseases
- Effective hygiene promotion in a crisis context
- The complexity of delivering safe water and sanitation in an emergency
- The standard equipment used in the field for emergency WASH response.

2. NAME OF THE COURSE

PG DIPLOMA IN WATER SANITATION & HYGIENE (WASH)

3. DURATION OF THE COURSE

The duration of the course shall be 12 months. The commencement and conclusion of the course shall be fixed by the university as per the starting of new academic session.

4. ELIGIBILITY

Any candidate who has passed any graduation program or any other equivalent examination will be eligible for the admission to the **PGD- WASH**

INTAKE - 60 STUDENTS

SELECTION PROCEDURE – INTERVIEW AND GROUP DISCUSSION

5. MEDIUM OF INSTRUCTION AND EXAMINATION

Medium of instruction for **PGD-WASH** will be in English and question paper shall be set in English.

SCHEME OF EXAMINATION/ PATTERN OF EXAMINATION

Examination Fees: As per University norms

Eligibility for appearing at PG DIPLOMA IN WATER SANITATION & HYGIENE (WASH)

Examination:

Student teacher should keep the terms with at least 75% attendance. He/she should complete all the project and other work allotted in all parts of the syllabus.

Centre of Examination :

The Theory and practical examination will be conducted in the College campus.

Theory

The theory examination will be held at the end of the term. This examination will be of three hours duration and carry 100 marks. Objective and descriptive types of question.

Project/Dessertation:

The assigned Project/Dessertation will be submitted by the student before the start of theory examination.

Evaluation:

1)Theory	Marks	Minimum Std of passing
	100(each paper)	50(each paper)
Total	400	200
2)Practical		
Project/Dessertation	150	75
Viva voice	50	25
Total	200	100
GRAND TOTAL	600	300

Standard of passing:

1. A student must obtain minimum 50% of marks in theory paper.
2. A student must obtain 50% of marks in Project/Dessertation examination separately in internal assessment.

A student must obtain 50% aggregate marks together in theory & Project assessment to pass the Course.

Award of Class:**Theory:**

Class will be awarded to the students at the end of the course on the basis of aggregate marks obtained by him /her in theory part as shown in the table given below.

Sr. No.	Class	Theory
1)	First class with distinction	70% & above
2)	First class	60% & above but less than 70%
3)	Higher second class	55% & above but less than 60%
4)	Second class	50% & above but less than 55%

Practical:

There shall be a grade on the report card for the project work assessment conducted. The grades will be given as below

Mark obtained (%)	Grade
90 & above	O
70-89	A
60-69	B
50-59	C
Less than 50	FAIL

Backlog of Course : Students will have to acquire at least 50% marks. If he/she fails to do so, Re-examination for theory/ project work will be arranged for them during the next course. Student shall appear only in the uncleared subject.

Marks Weightage:

Theory Papers : BUSINESS ACCOUNTING & TAXATION

Sr. No.	PAPER	SUBJECT	Internal	External	Total Marks
1	PGD-WASH 101	Concept of Cleanliness and Hygiene	20	80	100
2	PGD-WASH 102	Concept of Sanitation and Public Health	20	80	100
3	PGD-WASH 103	Waste Management & Ecology	20	80	100
4	PGD-WASH 104	Water Quality Monitoring	20	80	100
		TOTAL	80	320	400

Practical

Sr. No.	Project/Dessertation work	Marks
1	WASH protocols	150
2	Viva voice	50
	TOTAL	200

LECTURES AND WORKLOAD

Lectures:

Theory: 45 mins, four lectures a day – Monday to Friday

THEORY

Syllabus

Paper I

(PGD-WASH 101)

Concept of Cleanliness and Hygiene

Introduction to Cleanliness:

Importance of cleanliness, types of cleaning, cleaning for safety, Some cleaning procedures, measurement of cleanliness

Hygiene Concepts:

Definition of hygiene cleaning, disinfection, types of hygiene, etymology of medical hygiene, importance of hygiene .

Paper II

(PGD-WASH 102)

Concept of Sanitation and Public health

Sanitation Education

Purpose of sanitation, Types of sanitation, Categorization of sanitation education (Industries, Disaster-affected rural areas, Displacement emergencies, School), Classification of sanitation systems and technologies methods. Difference between Sanitation system and technology, Effect of sanitation on health & environment, Guidelines on sanitation and health, Sanitation safety planning.

Public Health

Health and Nutrition- education-definition, components, principles of health education, methodology- individual, group and mass methods use of audio- visual aids.

Medical entomology, Control of household pest with special reference to mosquito, housefly etc.; Environmental, chemical, biological and generic control.

Immunity - (i) Classification, specific and non-specific immunity (ii) Immunoglobulins, (iii) Cellular and hormonal, immune response (iv) Immunization active and passive immunization schedule (v) Immunizing agents, (vi) Hazards of immunization.

Primary health care system with special reference to Maternal and Child. Health care and maternal & infant mortality and morbidity Primary health system functioning in rural areas, health indicators and various health organizations, Malaria and AIDs Control-NHP, WHO, UNICEF.

Paper III

(PGD-WASH 103)

Waste Management & Ecology

Solid and Hazardous Waste Management

Solid and Hazardous Wastes: Definition, sources and characteristics; Sampling and analysis techniques; Inventorying wastes; Strategies for waste minimization. Municipal Solid Waste Management: Segregation and recycling and reuse of wastes; Collection, transportation and storage of municipal solid waste; Resource recovery from wastes; waste exchanges; Composting and vermi-composting of wastes; Disposal – siting and design. Hazardous Waste Treatment and Disposal: Biological and chemical treatment of hazardous wastes; Solidification and stabilization of wastes; Incineration for the treatment and disposal of hazardous wastes; Landfill disposal of hazardous waste; Bioremediation of hazardous waste disposal sites. Special Waste Management: Biomedical wastes, E-waste. Legal Requirements: Municipal solid waste rules; Hazardous waste rules; Biomedical waste rules; E-waste rules; Rules related to recycled plastics, used batteries, flyash, etc.

Hazard Identification: Assessment of risk; Risk management; OSHAS 18001 and Occupational health and safety management systems. Principles of Accident Prevention: Accident recording; Analysis; Investigation and reporting; On-site and off-site emergency preparedness and response plans; Rules and regulations dealing with chemical accidents. Protection from Hazardous Materials: Personal protective equipment and clothing; Fire safety; Noise and vibrations; Principles of noise control. Safety Management: Notification of sites; Safety reports; safety audits.

Biological and Environmental Protection

Overview of Environmental Legislation: Overview of Indian environmental law; Pollution control boards – Powers; functions and Procedures. Provisions of Water Act; Water-cess Act; Air Act; Environmental Protection Act; Public Liability Insurance Act as Applicable to

Industry: Provisions relating to Environmental clearance; Environmental sampling, analysis and reporting of results; Environmental standards.

Paper IV

(PGD-WASH 104)

Water Quality Monitoring

Water Quality Monitoring and Surveillance

Water Quality and Parameters: Physical; chemical and biological water quality parameters; General parameters; Biological water quality and fecal coliform count; Solids; Biodegradable and non-biodegradable organic matter; Nutrients; Heavy metals; and pesticides and recalcitrant/toxic organic compounds. Water Quality Monitoring: Surface water and groundwater quality; Water quality standards and effluent standards; Water quality criteria and guidelines; Classification of water bodies; water quality monitoring programs; Water sampling and analysis techniques; Water quality index and use specific water quality index.

Water and Sanitation related Diseases

Introduction of water and sanitation disease, Types & cause of water disease (Water-borne, Water-washed, Water-based, Water-related insect vector, Diseases caused by defective sanitation) Water contaminates, Study of water disease (parasite ,bacteria, virus & Chemical Impurities) Dengue, Malaria, Cholera, Typhoid, Hepatitis A&E, GiardiaCrptosporidium, Fluorosis, Arsenicosis, Schistosomiasis, salmonellosis, shigelosis.