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ACCREDITED BY NAAC
A-GRADE

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Ref : DST/TDT/WM/2019/27

Dt: 21-07-2020

NOTIFICATION

Subject: filling of Project assistant (1No.) and Filed worker (1No.) positions in the DST project, Government of India sponsored project, "**Hazardous/ Municipal Solid Waste (MSW) land fill leachate treatment using Advanced Oxidation Process (AOP's) coupled with Electrochemical-biological techniques**" with file No." **DST/TDT/WM/2019/27".**

Ref: Notification No. **DST/TDT/WM/2019/27 Dt.** 09-07-2020

With the reference to the above subject, it is informed that candidates applied for the posts of Project assistant (1No.) and Filed worker (1No.) in the DST project, Government of India sponsored project, "Hazardous/ Municipal Solid Waste (MSW) land fill leachate treatment using Advanced Oxidation Process (AOP's) coupled with Electrochemical-biological techniques" with file No." DST/TDT/WM/2019/27" are hereby informed that the selection will be based on an online screening exam for interviews which is schedules on 29th July, 2020. The Google meet link will be shared to the candidates by e-mail.

Syllabus for the screening exam

Unit 1: Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems. a) Forest resources : Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b) Water resources : Use and over-utilization of surface and ground water,

floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. • Role of an individual in conservation of natural resources. • Equitable use of resources for sustainable lifestyles. (8 lectures)

Unit 2: Ecosystems • Concept of an ecosystem. • Structure and function of an ecosystem. • Producers, consumers and decomposers. • Energy flow in the ecosystem. • Ecological succession. • Food chains, food webs and ecological pyramids. • Introduction, types, characteristic features, structure and function of the following ecosystem :- a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3: Biodiversity and its conservation • Introduction – Definition: genetic, species and ecosystem diversity. • Biogeographical classification of India • Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values • Biodiversity at global, National and local levels. • India as a mega-diversity nation • Hot-sports of biodiversity. • Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. • Endangered and endemic species of India • Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit 4: Environmental Pollution Definition • Cause, effects and control measures of :- a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards • Solid waste Management: Causes, effects and control measures of urban and industrial wastes. • Role of an individual in prevention of pollution. • Pollution case studies. • Disaster management: floods, earthquake, cyclone and landslides

Unit 5: Social Issues and the Environment • From Unsustainable to Sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Resettlement and rehabilitation of people; its problems and concerns. Case Studies • Environmental ethics: Issues and possible solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclear

accidents and holocaust. Case Studies. • Wasteland reclamation. • Consumerism and waste products. • Environment Protection Act. • Air (Prevention and Control of Pollution) Act. • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest Conservation Act • Issues involved in enforcement of environmental legislation. • Public awareness.

Books Recommended:

1. Environmental Studies, Benny Joseph, 3rd Addition, McGraw Hill Education (India) Private Limited, 2018.

2. Environmental Studies, Deeksha Dave, S.S. Katewa, Cengage Learning India Pvt. Ltd., 2012.

3. Environmental Chemistry, 7th Addition, A.K. DE, New Age International (P) Limited,2010.

4. Environmental Science, Anubha Kaushik, C.P. Kaushik , New Age International (P) Limited, 2011.

5. Environmental Studies,Reach Bharucha, 2004.