VIT

Vellore Institute of Technology

Continuous Assessment Test – II

Programme Name & Branch: B.Tech. Civil Engineering
Course Name & Code: BCLE212L & Natural Disaster Mitigation and Management
Class Number: 6073 **Slot:** D2 **Exam Duration:** 90 Minutes
Faculty Name: Dr. Kavitha.M.S & Dr. Priyadharshini B **Maximum Marks:** 50 Marks

General instruction(s):

Answer all the questions **Section – A (5 x 10 = 50 Marks)**

1. In June 2013, Uttarakhand, India, experienced a devastating landslide disaster around Kedarnath triggered by heavy monsoon rains. A significant landslide and the rain created a temporary lake. When this lake broke, it sent a lot of debris and water downstream. People who saw it said it was like a 'wall of water' covering everything. The disaster was made worse by more than 745 other landslides in the area. At first, people thought a glacial lake had burst, but it was due to early rainfall, monsoon winds, and the temporary lake. This event shows how important it is to plan land use carefully, respond quickly to emergencies, and build strong communities.

   Analyze the above disaster and discuss its contributing factors, impacts, and long-term challenges for such regions in the future.
2. According to the Global Climate Risk Index, India was the seventh most affected country globally by extreme weather events in 2019. This vulnerability arises from a complex interplay of geographical factors, environmental changes, and socio-economic conditions. In response to these challenges, what steps should India take to effectively mitigate the impacts of extreme weather events?
3. The emergence and spread of COVID-19 have been complex and shaped by various factors, such as host-pathogen interactions, environmental changes, healthcare infrastructure, and societal responses. Comment on how these factors have contributed to COVID-19.
4. How do various factors such as weather conditions, vegetation types, topography, and human activities contribute to the ignition, spread, and behavior of forest fires? What are the impacts of forest fires?
5. The Deepwater Horizon oil spill in 2010 was caused by an explosion on the oil rig operated by BP (British Petroleum). This explosion damaged the wellhead, leading to a massive oil leak into the Gulf of Mexico for 87 days. The spill resulted in significant environmental damage and economic losses and raised human health concerns due to exposure to oil and cleanup chemicals. BP faced severe consequences, including fines and legal settlements, and the disaster prompted stricter regulations for offshore drilling.

   Discuss the environmental, economic, and social impacts of the Deepwater Horizon oil spill in the Gulf of Mexico in 2010. Analyze BP's response to the disaster and the subsequent regulatory changes in offshore drilling. Use relevant examples to support your answer.

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