WASTE TO WONDER

1.	Team's Registered Email ID 22dcs024@nith.ac.in
2.	Waste Category **"CONSTRUCTION AND DEMOLITION WASTE"**
3.	Title of the Idea **"DebrisFinder"**
4.	Brief Summary GreenTreasure is a user-friendly app that connects individuals with a wide range of affordable Construction and Demolition waste materials. With real-time availability updates, users can easily find and purchase various types of waste products for reuse and upcycling projects, promoting a sustainable and cost-effective approach to resource utilization.
5.	**1.PROPOSED SOLUTION:** The proposed solution is to develop an app called GreenTreasure, which serves as a platform providing information about the availability of affordable Construction waste and demolition debris. The app aims to connect sellers of such waste materials with potential buyers who can utilize them for various purposes like reuse, recycling and repurposing. **2.REQUIREMENTS FOR IMPLEMENTATION:** The implementation of GreenTreasure requires a

user-friendly mobile application with secure registration and authentication, a robust database management system for storing and updating waste material information, real-time notifications, integration with online payment gateways, and a scalable backend infrastructure.

3.SCALABILITY AND FEASIBILITY:

The proposed solution is highly scalable as it can accommodate a growing number of users and waste materials listings. Feasibility is ensured through careful planning, resource allocation, and the use of widely available technologies, making the implementation of GreenTreasure achievable and cost-effective.

4. QUANTIFIABLE ENVIRONMENTAL BENEFITS:

The quantifiable environmental benefits of implementing GreenTreasure include a reduction in landfill waste by promoting reuse and repurposing, conservation of energy and resources through the utilization of waste materials, a decrease in carbon emissions by minimizing transportation distances, and the promotion of a circular economy by extending the lifespan of materials and reducing the demand for new resources.

5.ROBUSTNESS AND REPLICABILITY:

GreenTreasure ensures robustness through rigorous testing and continuous monitoring. Regular updates

	and security measures help maintain the app's stability and reliability. Replicability is achieved by developing the app as a scalable and modular solution, following industry-standard coding practices, and providing comprehensive documentation.
6	**Target Market**
·	The target market for GreenTreasure includes individuals businesses and govt. Agencies interested in sustainable practices, DIY enthusiasts, upcycling and recycling enthusiasts, construction and renovation professionals, and environmentally conscious consumers seeking affordable C and D waste materials for various projects and purposes.
7	**Uniqueness**
·	GreenTreasure's uniqueness lies in its dedicated focus on connecting buyers and sellers of Structural remnants, offering real-time availability updates, intuitive user interface, and integration with online payments. It promotes sustainability, cost savings, and convenience, making it a standout solution for accessing affordable waste materials.
8	**Economic benefits**
·	The economic benefit of GreenTreasure includes cost savings for buyers who can access affordable C and D waste materials for their projects, reducing the

	need for purchasing new resources. Sellers can monetize their waste materials, generating additional income from materials that would otherwise be discarded, enhancing resource efficiency and overall economic sustainability.
9.	**Limitations** The limitations of GreenTreasure include potential geographical coverage restrictions, quality control challenges for listed materials, logistics and transportation complexities, limited initial seller base, user adoption and engagement hurdles, and the need to ensure compliance with local regulations pertaining to the sale and transport of waste materials.

By submitting this form, I acknowledge that I have read and agree to the set of instructions and Rules of the hackathon event.

Roll No.

National Institute of Technology, Hamirpur (HP)

Civil Engineering Department

Name of the Examination: Mid-term Examination (February, 2020)

Branch: Group F, G, H, I and J
Year: First Year
Course Name: Applied Mechanics
Time: 1 Hr. 30 Minutes

Semester: Second
Course Code: CE-101
Max^m Marks: 30

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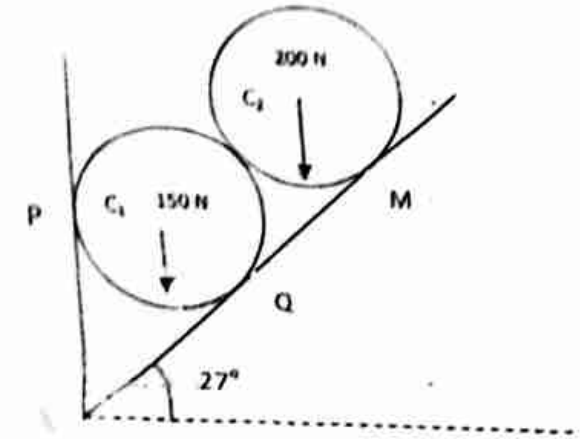
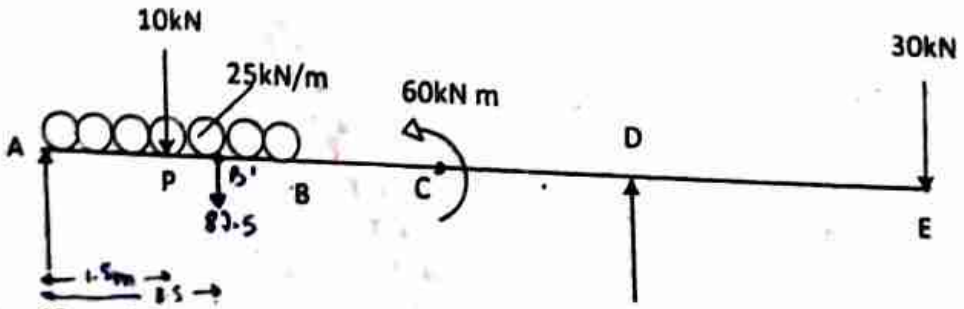
1. Two spheres are kept within a conical, as shown in figure. All contacts surfaces are smooth. Determine all contact reactions. Size of spheres are same but have different weights. **(5)**



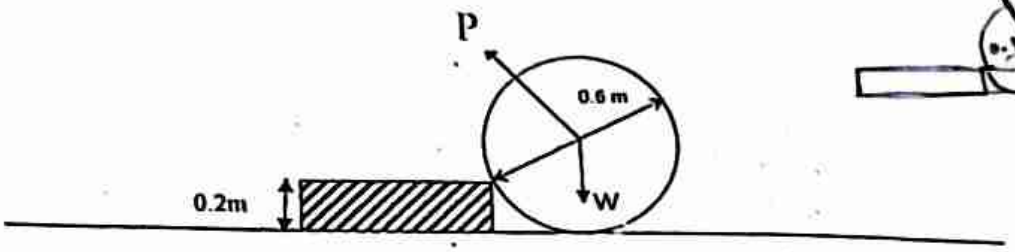
2. Figure shows a simply supported beam with transverse loading. A concentrated moment of 60 kNm is acting at point C. Using Principle of virtual work, determine the reaction at A and D. Given that AP =1.5m, AB =3.5m, CD = 2m, AD = 6.5m, DE =1.5m **(5)**



3. A uniform ladder of 4m length rests against a vertical wall, with which it makes an angle of 45°. The coefficient of friction between the ladder and the wall is 0.4 and that between ladder and the floor is 0.5. If a man, whose weight is one half of that of the ladder ascend it, how high will it be when the ladder slip? **(5)**

PTO

A uniform wheel 0.6m diameter, weighing 10kN, rests against a rigid rectangular block 0.2m thick as shown in figure. Find the least pull through the centre of the wheel to just turn it over the corner of the block. All surfaces are smooth. Find the reactions of the block as well. (5)



5. For Friction in the Flat belt drives, from the first principle derive Eytlwein's formula for transmitting power. (5)

6. Find the 2nd moment of area (Moment of Inertia) Ixx, Iyy and Ixy of hollow section (Unshaded portion) shown in figure about an axis passing through its Centroid of the body. (5)