

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 3rd

Name of Subject: Civil Engineering - Introduction, Societal and Global Impact

Subject Code: HSMCE-101

Paper ID: 16025

Scientific calculator is Not Allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part – A

[Marks: 02 each]

Q1.

- a) What are the various opportunities for a Civil Engineering graduate in government sector?
- b) What is the impact of haphazard development on the environment?
- c) Discuss the applications of *Simulation Softwares* in Civil Engineering.
- d) Differentiate between a *Runway* and a *Taxiway*.
- e) Compare the merits and demerits of above-ground and under-ground cabling.
- f) What are the applications of 3D Printing in Civil Engineering?

Part – B

[Marks: 04 each]

- Q2.** Compare the merits and demerits of solar power generation with that of hydro power.
- Q3.** Enumerate various objectives of construction of a dam. Also list any two problems associated with construction of a dam.
- Q4.** Discuss any two types of innovative concretes.

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- Q5. Explain, how civil engineering activities contribute to *Global Warming*. Briefly discuss the ways to address this issue.
- Q6. Differentiate between the terms *Mega City* and a *Smart City*. Also enlist the essential components of a smart city.
- Q7. What is a *hyperloop*? How is it different from *Metros*?

Part – C

[Marks: 12 each]

- Q8. What are the various avenues for entrepreneurial working for a Civil Engineer? Also discuss the skill set (one should possess) and an approach (one should follow) to become a successful Civil Engineer entrepreneur.

OR

Why *EIA* is vital to ensure sustainability? Also discuss in detail, the procedure of carrying out Environment Impact Assessment.

- Q9. Explain, in detail, the significance and procedure of LEED rating system.

OR

Explain, why awareness of various codes and standards governing infrastructure development is crucial? Also, explain the process of development and implementation of an Indian Standard.
