



**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING  
END TERM EXAMINATION - JAN 2023**

**Semester :** Semester III - 2021

**Course Code :** CIV2041

**Course Name :** Sem III - CIV2041 - Fundamentals of Smart City

**Program :** B.Tech. Civil Engineering

**Date :** 18-JAN-2023

**Time :** 1.00PM - 4.00PM

**Max Marks :** 100

**Weightage :** 50%

**Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.

**PART A**

**ANSWER ALL THE TEN QUESTIONS**

**10 X 2 = 20M**

1. What does "smart city" mean to you?
  - a) A new buzzword only for rich countries which will soon pass (CO1) [Knowledge]
  - b) A local authority that uses digital technology as a tool for its sustainable and inclusive urban development strategy
  - c) An automated and data-controlled city, made of sensors and servers sold by digital firms
  - d) A type of City
2. Name the country that has proposed to assist in developing Delhi as the first global and smart city in India under the framework of the draft MoU presented on 27th Apr'15?
  - a) Spain (CO1) [Knowledge]
  - b) China
  - c) Sri Lanka
  - d) France
3. Select the correct answer from the following on smart city components purpose;
  - a) Putting Data to work (CO2) [Knowledge]
  - b) Smart Transportation Solutions
  - c) Building Healthier Communities
  - d) None of the above

4. Smart cities are;
- a) Responsive (CO2) [Knowledge]
  - b) Intelligent
  - c) Sustainable
  - d) All of the above
5. The central E-Governance is to make government services;
- a) Efficient (CO3) [Knowledge]
  - b) Accessible
  - c) Convenient.
  - d) All of the above
6. Choose the correct options from the following about smart Governance?
- a) It is evidence based (CO3) [Knowledge]
  - b) It is a participatory-decision making process
  - c) It is about rise of social media
  - d) All of the above
7. The SPV will be a;
- a) Private Company (CO3) [Knowledge]
  - b) Public Limited Company
  - c) Government company
  - d) Multi-national company
8. How the funds are expected to be mobilized from different sources?
- a) States/ ULBs own resources from collection of user fees (CO3) [Knowledge]
  - b) Innovative finance mechanisms such as municipal bonds with credit rating of ULBs
  - c) States/UTs may also access the National Investment and Infrastructure Fund
  - d) All of the above
9. The purpose of decentralization in smart city means;
- a) Platforms where data are public (CO3) [Knowledge]
  - b) Platforms where data are not public
  - c) Platforms where users have to be granted special permission to connect and execute management operations
  - d) All of the above
10. Choose the correct answers about the the pillars of development of Smart Cities?
- a) Physical Infrastructure (CO3) [Knowledge]
  - b) Institutional Infrastructure
  - c) Economic Infrastructure
  - d) All of the above

## PART B

### ANSWER ALL THE FIVE QUESTIONS

5 X 8 = 40M

11. Smart city planning is a balancing act that involves citizens, public organizations, state and local government and private enterprises. Once this balance is achieved, it creates huge opportunities for business, sustainability, disaster prevention, public safety and quality of life improvements. Explain the smart solutions to overcome challenges faced by ICT?  
(CO1) [Comprehension]
12. Urbanization has contributed heavily to climate change. Most cities in the world today are grappling with bad air quality. Garbage collection and disposal Environmental pollution leads to health problems. Explain the health risks associated with environmental systems?  
(CO2) [Comprehension]
13. Smart city governance is defined as an examination of the comprehensive public domain activities and services of a smart city. It further explores how political and societal governance systems can translate to run smart cities digitally. Explain implementation of Information and Communication Technology (ICT) in the government department?  
(CO3) [Comprehension]
14. A Special Purpose Vehicle (SPV) is a separate legal entity created by an organization. The SPV is a distinct company with its own assests and liabilities as well as its own legal status. Usually, they are created for a specific objective, often to isolate financial risk. Explain the Implementation by Special Purpose Vehicle?  
(CO3) [Comprehension]
15. Convergence of hardware, software, networking are the at the planning stage of various Government schemes. Explain the convergence Stack in smart cities?  
(CO3) [Comprehension]

## PART C

### ANSWER ALL THE FOUR QUESTIONS

4 X 10 = 40M

16. The urban resilienceconsists of various core dimensions. Explain four core dimensions of the urban resilience framework?  
(CO2) [Application]
17. Sustainable urban planning improves the quality of life of present urban residents while preparing for the influx of future dwellers. It consits different components of Inclusive Planning and Development. Describe the various components of Inclusive Planning and Development?  
(CO2) [Application]
18. ICT innovations are making it possible to process smart city data and provide the necessary information for decision makers to improve policy making. Explain some ICT initiatives that the government has taken?  
(CO3) [Application]
19. ULBs need to play a significant role in financing public services such as providing safe drinking water, affordable housing, public transport. Wastewater treatment, solid waste management etc. Explain the responsibilities and finances of ULBs?  
(CO3) [Application]

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