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 **PRESIDENCY UNIVERSITY**

  **Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 17 – 01- 2025 **Time:** 01:00 pm – 04:00 pm |

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| **School:** SOE | **Program:** B .Tech CIV |
| **Course Code** : CIV2041 | **Course Name** : Fundamentals of Smart City |
| **Semester**: VII & III | **Max Marks**: 100 | **Weightage**: 50% |

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| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** |
| **Marks** | **21** | **27** | **52** | **-** | **-** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

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| **Answer ALL the Questions. Each question carries 2marks. 10Q x 2M=20M** |
| **1** | Decentralization is not a new concept. It is the restructuring or reorganizing of authority in the institutions of governance. Write the objectives of decentralization. | **2 Marks** | **L1** | **CO3** |
| **2** | Decentralization improves delivery and utilization of the services. List the types of decentralization. | **2 Marks** | **L1** | **CO3** |
| **3** | Government funding refers to the money that governments use to pay for public services and projects that benefit society. Name the various types of government funding. | **2 Marks** | **L1** | **CO3** |
| **4** | National Smart Cities Mission is an urban renewal and [retrofitting](https://en.wikipedia.org/wiki/Retrofitting) program by the [Government of India](https://en.wikipedia.org/wiki/Government_of_India) with the mission to develop [smart cities](https://en.wikipedia.org/wiki/Smart_city) across the country, making them citizen friendly and sustainable. In relation to this list the areas that drive Resilient cities. | **2 Marks** | **L1** | **CO2** |
| **5** | What are the aims of the smart solid waste management system? | **2 Marks** | **L1** | **CO1** |
| **6** | Smart cities are urban areas that use digital technology and data-driven solutions to enhance performance, well- being, and reduce costs and resource consumption. Write the role of government in urban development. | **2 Marks** | **L1** | **CO3** |
| **7** | Government funding for smart cities can come from multiple sources, including tax revenue, grants, bonds, and public-private partnerships. What are the benefits of government funding? | **2 Marks** | **L1** | **CO3** |
| **8** | Each Smart City will have a Special purpose vehicle (SPV) which will be headed by a full time CEO and have nominees of Central Government, State Government and ULB on its Board. Define SPV. | **2 Marks** | **L1** | **CO3** |
| **9** | Cognitive systems combine machine learning with the ability to interact via natural language and create insight from massive amounts of data. Why cognitive computing can be called as Disruptive technology? | **2 Marks** | **L1** | **CO1** |
| **10** | A Smart City has basic infrastructure that uses smart solution to make infrastructure and services better and relies on area based development. Name the basic Infrastructure facilities of smart cities.  | **2 Marks** | **L1** | **CO1** |

**Part B**

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| **Answer the Questions. Total Marks 80** |
| **11.** | **a.** | Smart cities are all urban settlements that make a conscious effort to capitalize on the new landscape of Information and Communication Technologies in a strategic way, aiming for environmental sustainability, functionality of urban systems, quality of life for all, knowledge-based development and community-driven development. Their basic components are the urban setting, Information and Communication Technologies, people and communities and a strategic approach towards one or more of the previous aims. Build the flow chart of the Strategic Planning Process & Urban Planning and Management Framework. | **25 Marks** | **L3** | **CO2** |
| **Or** |
| **12.** | **a.** | Smart city proposal is collaborative because the objectives and funds of all government departments, private agencies and the citizens are dovetailed during the process of preparing the SCP. It is realized that the task of preparing the SCPs is quite challenging and States/ULBs will require assistance of experts. Develop smart city proposal of Kochi. | **25 Marks** | **L3** | **CO2** |
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| **13.** | **a.** | Decentralization refers to the transfer of power and authority from central level government to the regional or lower levels. Build the flow chart for various forms of administrative decentralization and explain it. | **25 Marks** | **L3** | **CO3** |
| **Or** |
| **14.** | **a.** | A Special Purpose Vehicle (SPV) is a separate legal entity created by an organization. The SPV is a distinct company with its own [assets](https://corporatefinanceinstitute.com/resources/knowledge/accounting/types-of-assets/) and [liabilities](https://corporatefinanceinstitute.com/resources/knowledge/finance/liability/), as well as its own legal status. Develop the implementation of the Mission at the City level by special purpose vehicle. | **25 Marks** | **L3** | **CO3** |

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| **15.** | **a.** | Decentralization is the sharing of power and resources in a political-administrative and territorial hierarchy. Illustrate the limitations of decentralization. | **15****Marks** | **L2** | **CO3** |
| **Or** |
| **16.** | **a.** | The government provides the funding and sets the guidelines for the project, while the private company handles the design, construction, and operation of the project. Illustrate the roles and responsibilities of Public-Private Partnerships. | **15 Marks** | **L2** | **CO3** |

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| **17.** | **a.** | Water distribution systems are significant parts of every smart city. Conventional methods of water distribution from the water source to the customer premises are not suitable and efficient, especially for diagnosing any leakage in the pipeline or other parts of the system. Illustrate the components/layers required to make water supply system smart. | **15****Marks** | **L2** | **CO1** |
| **Or** |
| **18.** | **a.** | Smart cities use intelligent solutions to optimize infrastructure and smart and responsive governance to engage citizens in the management of their city. Summarize the benefits of smart cities. | **15****Marks** | **L2** | **CO1** |

**\*\*\*\*\* BEST WISHES \*\*\*\*\***