

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2018**

**Program/course: MBA UISC**

**Semester – : III**

**Subject: Township Planning for Smart City**

**Max. Marks : 100**

**Code : PIUI-8005**

**Duration : 3 Hrs**

**Instructions:**

**SECTION A**

**Attempt all questions (Explain following Terms)**

QNo.	Question Description	Marks	CO
1	AMRUT.	2	CO1
2	DSM	2	CO1
3	GIS	2	CO1
4	JNNURM	2	CO1
5	Smart City.	2	CO1
6	ICT	2	CO1
7	NITI Aayog	2	CO1
8	IoT.	2	CO1
9	SEZ	2	CO1
10	HRIDAY.	2	CO1

**SECTION B**

**Attempt any TWO questions**

1	How a land can develop along a metro project? Critically evaluate Delhi Metro for this purpose with suggestions.	10	CO2 & CO3
2	What is a Smart water system? Critically evaluate policy in this regards with suggestions for betterment	10	CO1 & CO3
3	How can we create smart healthcare system? Critically evaluate different health care schemes of Union Govt. and suggest for betterment.	10	CO2& CO3

**SECTION-C**  
**Attempt any TWO Questions**

1	What are major proposed amendments in the Electricity Act 2003 in recently drafted proposal by MoP Govt. of India? Critically evaluate five of them.	15	<b>CO2&amp; CO3</b>
2	What are the Financial, Technical and Legal aspects of Power purchasing in India? Explain.	15	<b>CO2</b>
3	Calculate tariff of a hydro-electrical power project with 5000MW capacity in Uttarakhand as proposed at Pancheshwar with CERC guidelines, assuming everything as per CERC norms & regulations.	15	<b>CO3</b>

**SECTION-D**

1	<p><b>Dublin city adopts smart approach on road to economic recovery</b></p> <p>Ireland's capital is one of the oldest in Europe, and the city council wants to maintain the city's historic fabric. The Georgian parts of Dublin are protected under policy introduced in the 1980s and 90s that prevent new roads being built in some of the most historic areas. However, with congestion becoming an increasing problem, another solution has been sought.</p> <p>Brendan O'Brien, head of technical services at Dublin city council, explains: "We have had to find a way of doing things more efficiently." The city council has been working to improve the transport network without any major re-development. Instead, it has been collecting and analysing data, in partnership with IBM, to tackle congestion. This is being done as part of a push towards making Dublin a "smarter city".</p> <p>Journey information is released and updated by Dublin city council every minute. Residents can go online and find the quickest route to their destination. The term "smart city" is synonymous with cities that use information and communication technologies to be more efficient in their use of resources. However, O'Brien calls it a "buzzword", joking that it implies other cities are stupid.</p> <p>Ireland's capital has become IBM's smarter city testbed. Research is being conducted in Ireland on how problems like congestion can be tackled through joining up existing databases. This is part of IBM's larger Smarter Planet programme, which explores</p>	30	<b>CO3</b>
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broader environmental concerns. The work involves applying analytics to huge amounts of data to solve pressing problems.

In Dublin, information comes from an array of sources including road sensors and GPS updates from the city's 1,000 buses. A digital map of the city is being built, overlaid with the real-time positions of the city's buses.

O'Brien says the city council is a long way off the smart city ideal of using technology to improve all the city's services. However, as well as working on traffic issues, IBM is also looking into water and energy use and smarter social care.

He adds that the relationship with IBM is not commercial but purely research based: IBM wants to create a model of collaboration with the city so the company can use the city's data to develop the smart city approach. In return, Dublin gets the latest ideas and results of the thinking. Much of the work in Dublin is about trying to understand how the next generation of computer technology could exploit both the data made available by cities and data generated by mobile devices.

"What we are doing in Dublin is particularly innovative because we are starting to look at all sources of data – through work with IBM," says O'Brien. "It's not just bus and traffic data but fusing it all together. That is the big plan."

Martin Brynskov, an academic co-ordinator of AU Smart Cities, says collaborations like this one are likely to become increasingly common: "It is difficult for government to build systems [on their own] – either you have to partner up to build these infrastructures or the alternative is not to do it. But this is, in a way, to slow down a bit."

He is skeptical about the obvious, strong alliance with IBM. "If you were a small business looking to collaborate with the council you might think; 'where on this stage do I fit?'" Lisa Amini, director of IBM Research Ireland, says the research lab was not put in place to solve all Dublin's problems. "It is there to do research in this context and to use data," she says. "What we learn we share with Dublin city council."

She says other areas could learn from Dublin's approach and the fact the city has made a leap of faith. "We couldn't tell them, 'this is how much you will save' or 'this is how this will benefit you', but they were willing to take a risk and say, 'I know we can do

better'." The vision of a smart city is perhaps held back by fears that we could end up living in a "Big Brother" state, but O'Brien believes that this won't happen because the council is not interested in personal data. "Big Brother presupposes the people collecting information are interested in you," he says.

For local authorities to make good use of data, O'Brien says staff will need new skills. Councils need to buy in at the top level and deploy enough resources to put energy into a smart city approach, he adds. Last year, 30 urban areas across the UK competed for £24m to become smart cities. Glasgow won the grant, and the city council has used the money to invest in "super intelligent" CCTV cameras that can be used to raise alarm when unattended bags are detected, and apps that can help visitors find the quickest routes. David Gann, chair in technology and innovation management at Imperial College London, says that the smart city approach "should result in better experience for citizens and visitors, better business environment for first and higher quality of life for all". For this to happen, local government has a role to play, including making "visible targets" for areas in which cities need to improve. Gann admits that there are risks. "Digital systems are vulnerable to cyber-crime and the more integrated they are, the more an attack could shut down essential services."

However, O'Brien believes that looking for alternatives is important in a time of recession: "With economic recession, all the big civil infrastructure problems got shelved and there will be a time lag between economy recovery and seeing funding again," he says. "There will be a transportation deficit over the next few years, and knowing we don't have anything in the pipeline.

1. **How is economic recession effecting the Europe's Smart City Program ? (5)**
2. **Explain the role of IBM. (10)**
3. **How will you create a Digital Map for your own city? (5)**
4. **Can City council of Dehradun follow the above footsteps to convert itself into a Smart City. Give reasons for the support of your answer. (10).**

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**SECTION A**

**Attempt all questions( Write short notes of the following)**

QNo.	Question Description	Marks	CO
1	PMGSY	2	CO1
2	PMAY(U)	2	CO1
3	Digital Mapping	2	CO1
4	RfQ/RfP	2	CO1
5	Force Majeure	2	CO1
6	ICT	2	CO1
7	UUSDIP	2	CO1
8	ICCC.	2	CO1
9	PPPP	2	CO1
10	BOOT.	2	CO1

**SECTION B**

**( Attempt any TWO Questions)**

1	Compare and contrast AMRUT Vs JNNRUM with suggestions for improvement.	10	CO2
2	What is a Smart sewage system? Critically evaluate national policy in this regards with suggestions.	10	CO2 & CO3
3	What are the major causes for failure of PPP in any highway projects? Suggest for betterment after evaluating any two of them.	10	CO2& CO3

**SECTION-C**  
**Attempt any TWO Questions**

1	What are key features of smart cities in India? How financing for the smart cities used to be done? Critically evaluate overall concept and objectives of Smart City Mission in India with suggestion.	15	CO2& CO3
2	Explain roles of integration of schemes for success of smart cities in India. Integrate anyone scheme from non-urban program for benefits of smart cities.	15	CO3
3	“Urban Development is key for growth and development of Indian economy” – critically evaluate this.	15	CO3

**SECTION-D**

1	<p><b>SINGAPORE</b></p> <p>As we age, we tend to get a little self-conscious about how we look. That’s also a bit true of Singapore, which is turning 50 this month. And it’s celebrating with a truly extreme makeover — reinventing itself inside and out.</p> <p>The city state is going so far as to build a second Singapore: a digital twin of itself. That digital model is designed to not only help optimize the country now, and but also <b>shape its next 50 years.</b></p> <p><b>An urgent need to change</b></p> <p>Singapore for first 50 years was marked by tremendous success in shipping, oil refining, electronics and banking. But those industries are already showing their age, which, in turn, is causing Singapore to show its age. Weakness in some of those areas is taking a toll on its economy. With electronics manufacturing, for example, Singapore once provided the low-cost workforce to the world. Now, countries with less expensive labor have taken that work from Singapore, leaving its citizens with a relatively high cost of living and poor job prospects. Combine that with rapid immigration, an aging population and shrinking worker productivity, and Singapore realizes that to be strong for its next 50 years, it needs to make changes today.</p> <p><b>It starts with a digital twin</b></p>	30	CO2 & CO3
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Programmers are already working on Virtual Singapore now and they expect to launch the digital twin in 2018. The twin will be a **truly dynamic model of the country**, overlaying real-time data, such as climate and demographic information, over geometric, geospatial and topology information. Analytics and simulation capabilities will let researchers, developers and city staff test scenarios digitally to discover the impact they would likely have in the real-world.

Virtual Singapore is not without its critics. Some believe the project is **too large and contains too much data**. But the hope is that the digital test environment will allow the country to develop and prove concepts much faster and at very low risk, accelerating its pace of improvements.

**Reinventing its economy**

One key objective is to completely overhaul its economy. Nearly half the residents still have non-professional jobs, such as staffing assembly lines and cleaning. Singapore has visions of being a global research and innovation hub. Using technology is one component. The country has visions of its roads filled with autonomous vehicles. Every home will be connected with fiber-optic cable. Food will grow in gardens on the top of skyscrapers. But Singapore is also changing its approach to allow innovation to happen, rather than trying to force it. So far, **three technology parks are being developed**, each with a unique focus: biomedical, digital media and information technology and engineering. Biopolis, the biomedical technology park, is already thriving with pharmaceutical companies including Abbott, GlaxoSmithKline, Lilly, Novartis, Schering-Plough and Takeda setting up research and development facilities there. The campus also includes public sector research institutes, allowing the public and private sectors to easily collaborate, reducing their costs. For its part, the Singapore government is letting those with the ideas lead. The government once tried to manage everything. Now, it's an investor, and the ultimate investment is in itself.

**BUSAN**

Busan is South Korea’s second largest city and the fifth-largest container-handling port in the world. With an economy based on heavy industry, Busan confronts challenges similar to those of other large, industrial cities. A primary challenge for Busan is creating job opportunities for its 60,000 annual university graduates and retaining a high-quality workforce. The Busan Metropolitan Government recognized the potential for growing its economic base through the use of information and communication technology (ICT). By connecting citizens, educational institutions, government agencies, and industry, the city could drive sustainable urban development while providing citizens with easy access to city services. A 10GB broadband infrastructure, the Busan Information Highway, was already deployed and linked 319 public institutions. This infrastructure gave the Busan government a strong foundation for expansion. For assistance, Busan turned to Cisco and the Cisco Internet Business Solutions Group (IBSG). Beginning in 2009, the teams worked with the Busan Metropolitan Government to develop plans for the new Ganso city where connectivity is ubiquitous, a “u-City,” and existing “brownfield” communities are transformed into Cisco Smart Connected Communities™. Cisco® Smart Connected Communities use intelligent networking capabilities to weave together people, services, community assets, and information into a single pervasive solution. Cisco works with customers from idea to execution, taking advantage of industry solutions built on the network as an open, integrated platform, a broad ecosystem of partners, and innovative business models to change how communities are designed, built, managed, and renewed. Cisco Smart Connected Communities enables citizens, mayors, developers, urban planners, and other community stakeholders to drive economic, social, and environmental sustainability.

Next Steps With a shared development platform, developers can work with the city to co-create Smart City services. Busan Metropolitan Government plans to establish a public-private collaboration company to create, deliver, and manage innovative urban services. In addition, the city is encouraging a greener city environment through increased citizen engagement. The Smart City Cloud services enable citizens to make “green” choices, such as living in green buildings, taking walk/bike paths and public



transportation, and recycling. Busan Metropolitan City plans to reduce carbon emissions in the Gangseo New City area by 67.8 percent (2981 metric tons) by 2020, compared with other newly developed Korean cities that do not have Green u-City services. At the same time, IOC and the city management dashboard will help city leaders improve management of public assets and consume fewer resources. “When the implementation of the Busan u-City is complete, it will usher in a new era in urban mobility around the city, with education, medical service and public welfare all benefiting from the creation of a smart community environment,” says Young-Sik Kim, director general, planning and financing of Busan Metropolitan City. “This is Busan’s chance to cement its reputation as a world-class city that the whole world can learn from, in its simultaneous achievements of local economic growth and green growth.”

- 1. From the above case take the inputs and frame a sustainability goals and strategic plan for any city of your choice. (15marks)**
- 2. Can we apply the above strategies for city of Dehradun? Give reasons to support your answer. (15marks)**