Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2023

Course: Green Transition & Smart Infrastructure **Semester: IV**
Program: BBA GES **Time : 03 hrs.**
Course Code: OGET2007P **Max. Marks: 100**

Instructions:

SECTION A
10Qx2M=20Marks (Answer All Question)

S. No.		Marks	CO
Q 1	Complete the abbreviations 1. UNFCC 2. UNDP	**2**	**CO1**
Q 2	Name 2 technologies that can be used for Smart Grid implementation	**2**	**CO1**
Q 3	Give names to types of Solar panels available in market	**2**	**CO1**
Q 4	Name 2 Multilateral Financing agencies	**2**	**CO1**
Q 5	What is IoT?	**2**	**CO1**
Q 6	What is a pilot project?	**2**	**CO1**
Q 7	Name the authority which looks after air pollution at the central level	**2**	**CO1**
Q 8	Name 2 manufacturers of EV chargers.	**2**	**CO1**
Q 9	What is Grey Hydrogen?	**2**	**CO1**
Q 10	What can replace Lithium Ion Battery?	**2**	**CO1**
	SECTION B **4Qx5M= 20 Marks**		
Q 1	Why India requires Smart City?	**5**	**CO2**
Q 2	Explain the Value chain of Energy Storage.	**5**	**CO2**
Q 3	Name any 5 parameters which have to be considered while selecting any particular Energy Storage technology.	**5**	**CO2**
Q 4	What is RFP and RFQ?	**5**	**CO2**
	SECTION-C **3Qx10M=30 Marks**		
Q 1	Analyze the steps by which Economic Evaluation of Solar Rooftop PV is being done	**10**	**CO3**
Q 2	Solve the following problem:	**10**	**CO3**

	Say your manager had asked you to calculate that how much kg of CO2 100 MW of solar power can reduce annually. Considering data that calorific value of coal is 4000 Kcal/kg and Heat rate is 2500 kcal/kwh.		
Q 3	Elaborate how financing of Smart City is taking place in India Or Explain PPP Bidding process.	**10**	**CO3**
SECTION-D **2Qx15M= 30 Marks**			
	In September, the United Nations' General Assembly is set to adopt the Sustainable Development Goals (SDGs), a highly anticipated event in global development. The Open Working Group has been crafting a comprehensive package of goals and targets that can drive global efforts towards a sustainable and poverty-free world by 2030. However, the soon-to-be-adopted SDGs are likely to fail unless far more attention is given to addressing governance challenges crucial to their implementation. In the broadest sense, governance refers to how societies make decisions and take action. It is about the mechanisms we use to work together in society to solve shared problems. For the SDGs, this involves considering how government, business, non-governmental organizations, civil society and researchers will work together. Governance fundamentally underpins our ability to get things done in society yet there numerous failures in governance everywhere: weak safeguards in the global financial system, coups against elected national governments, the multi-decadal struggle to take global action to manage greenhouse gas emissions and climate change. As scholars who study governance in the context of managing natural resources, we see these all fundamentally as failures of governance. And unless we begin to think now about governance in the context of the SDGs, they too will fail in achieving their ambitious goals. **Strengthening governance**		**CO4**

	What does implementing the SDGs involve? How can we guard against failure, and strengthen the odds that we will achieve the sustainable and just future envisioned in the SDGs? Three key challenges that urgently need to be addressed are: **First, how can we bring together the right stakeholders at the right time in the right place?** Sustainable development inherently involves many different stakeholders operating at many different scales, from national governments, to transnational corporations, to local and international NGOs, to small villages, and many more. It can be tough to get the relevant stakeholders working together at the right time and place to solve complex poverty and sustainability problems. For example, consider the single goal of "access to affordable, reliable, sustainable and modern energy for all" (Goal 7). Who will need to be involved in developing, producing, installing and maintaining the technologies to provide universally accessible energy? Who is involved in determining what is "reliable and "affordable" for different communities in different parts of the world? How do governments, the private sector, and communities interact in deciding on appropriate and sustainable energy systems, and how does this differ in different contexts? Just consider the differences between China and the United States or between countries across Africa. These sorts of coordination challenges exist not only for energy, but also for addressing poverty, food, health, education, water, biodiversity, and the many other issues within the SDGs. But they are central to having the right stakeholders working together at the right time and place. **Second, how do we make difficult trade-offs?** There will be many co-benefits among the SDGs, where addressing one goal helps address others at the same time. For example, addressing climate change will have co-benefits for energy security, health, biodiversity, and oceans.		

	However, the SDGs will also involve trade-offs. It is crucial to recognize that difficult choices will also need to be made that may involve winners and losers, at least in the short term. For example, biodiversity could be threatened if forests are cut down to expand agricultural production for food security. Food security could be threatened if food crops are switched to biofuel production for energy security. Water security could be threatened by decisions to intensify or expand agriculture, or to build hydropower for energy security and greenhouse gas mitigation. **Competing interests** Each of these issues has many competing stakeholder interests attached to them. Climate change (Goal 13) is a classic example. Those affected in the short term, such as fossil fuel companies and their workers, will perceive themselves as "losers" if they are forced to change, even though society as a whole will be a "winner" in the long-term by avoiding the tremendous risks and impacts of runaway climate change. Making difficult trade-offs can be a major governance weakness, especially for the complex problems within the SDGs where responsibility is dispersed and the interests of different stakeholders can conflict. Achieving the SDGs will require national governments, the private sector, the nonprofit sector, and communities to make difficult decisions based on thoughtful and genuine commitment to the SDGs. Unless there is a strong willingness to do so, the SDGs risk being relegated to the 'too hard' basket. **Third, how do we build in accountability for action?** A final key challenge is ensuring responsibility and accountability for progress towards meeting the SDGs. Mechanisms to do this need to link across local, national and international scales. Discussions are currently occurring to decide on indicators and ways of monitoring and evaluating progress on the SDGs, largely at the national scale.		

	We need to measure both “inputs” (ie, did nation X invest what they said they were going to invest in addressing issues A, B, and C), as well as “outcomes” (ie, did we actually achieve our goals to eradicate poverty, improve health, and provide access to water, food and energy in nation X)? However, crucially, we need powerful ways of feeding this information back into the policy and political arena to hold responsible stakeholders to account. This chiefly includes governments, but also other key stakeholders in the private sector, NGOs, and even civil society. If we don’t create these sorts of ‘feedback loops’ to hold each other to account, how will we make sure that the SDGs are actually being implemented?		
Q1	How tradeoffs in sustainable development projects can be resolved?	**15**	**CO4**
Q 2	How Accountability and Governance systems can be improved?	**15**	**CO4**