

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018Subject: Fundamentals of HVDC and Fact devices

Branch: EEE

Time: 3 hours

Max. Marks: 75

PART – A**I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. What are the types of transmission system?
2. Draw the schematic diagram of three & two valve conduction mode
3. Explain the concept of power flow in parallel paths.
4. What is unified method of DC power flow
5. Explain the basic concept of voltage source converter.

II. Answer ALL questions of the following**10x2Mark=20 Marks**

1. What is main function of converter
2. Explain the modeling of DC links.
3. What are the assumptions made to simplify the analysis of graetz circuit.
4. Explain overlap angle and extinction angle.
5. Discuss about the converter control characteristics.
6. Define reactive power.
7. What are the sources of reactive power?
8. Illustrate the power flow in an AC meshed transmission system.
9. Brief on square wave voltage harmonics for a single phase bridge converter.
10. What is main function of invertors?

PART-B**Answer ALL questions of the following****5x10 Marks= 50Marks**

1. Explain in detail about the planning of hvdc transmission
OR
2. What are the filter configuration that are employed for HVDC Converter station? Give design aspect of one such filter.
3. Explain the analysis of 12 pulse converter with bridge rectifier.
OR
4. Discuss in detail the effect source inductance on HVDC system.
5. Explain in detail the concept of reactive power requirement in hvdc converters.
OR
6. Derive the controller equations and explain it.
7. Discuss the parameters trade off devices in facts.
OR
8. Discuss the power flow in an AC systems
9. Explain briefly operation of Three-phase full-wave bridge converter with neat diagrams.
OR
10. Explain briefly operation of Single phase full-wave bridge converter?

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IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018Subject: **Disaster Management**Branch: **EEE**Time: **3 hours**Max. Marks: **75****PART – A****I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. Define Environmental stress.
2. Define tropical cyclone.
3. Explain ACWCs
4. What do the following acronyms stand for?
a)WHO b) NSDC
5. Define Sustainable Development.

II. Answer ALL questions of the following**10x2Mark=20 Marks**

1. What is the difference between natural disasters and man-made disaster?
2. How to prevent hazards from changing into disaster?
3. Write the types of Volcanoes.
4. What are natural hazards in coastal areas?
5. Enlist the different stages of disaster management.
6. List three pre disaster activities to reduce the impact of cyclones.
7. What is the role of media in disaster management?
8. What is the role of Seismological Observatory in disaster management?
9. Write a short note on Environmental programmes in India
10. What are the various measures of sustainable development?

PART-B**Answer ALL questions of the following****5x10 Marks= 50Marks**

1. What is hazard? Classify and Explain.

OR

2. Explain the concept of Environmental hazards.
3. Explain about the soil erosion and its conservation.

OR

4. Write a note on man-made landslides. State what are the mitigation measures at the time of landslides.
5. Describe the various pre-disaster preparations that are necessary to avoid a major disaster.

OR

6. Explain in detail about emergency stage.
7. Explain the role of India Meteorological Department and Hydrology laboratory in disaster mitigation.

OR

8. Enlist the various institutions and national centers involved in natural disaster reduction.
9. Explain the role of panchayats in disaster mitigation.

OR

10. What is sustainable development? Explain ecological planning for achieving sustainability.

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IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018Subject: Introduction to NanotechnologyBranch: **EEE**Time: **3 hours**Max. Marks: **75****PART – A****I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. Discuss how Optical properties of a nanomaterial can be changed.
2. What are carbon nano tubes?
3. How Nonmaterial used in MRI
4. What is the significance of giant magneto resistance?
5. Define Mask

II. Answer ALL questions of the following**10x2Mark=20 Marks**

1. Write the differences between resonant tunneling structures and tunneling magneto resistance.
2. What is super plasmon resonance? How it affects optical property of nanoparticles?
3. How Plasma generated using RF coils
4. Explain types of Fabrication of Nanomaterials?
5. Clearly discuss about XRD.
6. Write the disadvantages of CVD.
7. What is the difference between nano science and nano technology.
8. Write the differences between single electron tunneling and single electron transistor.
9. Define Nanolithography
10. Explain, what is lithography?

PART-B**Answer ALL questions of the following****5x10 Marks= 50Marks**

1. How porous silicon is useful in electronics. Give the route through which it can be prepared.

OR

2. Discuss in detail about applications of quantum dots.
3. Elucidate C80 Nanostructures in detail.

OR

4. Explain about Ion sputtering method in detail.
5. Write about TEM in detail

OR

6. How nanotechnology is incorporated in Cancer therapy. Explain in brief?
7. What could be the futuristic applications of nano technology in molecular electronics

OR

8. Differentiate giant magneto resistance and Tunneling magneto resistance
9. Write about Mask and its application in detail.

OR

10. Write the differences between SEM based nano lithography and nano manipulation.