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M.Tech. (Power System) 3rd Semester Examination,
December-2023

GRID INTEGRATIONS OF ELECTRIC VEHICLE

Paper-22MPS23C2

Time allowed : 3 hours] [Maximum marks : 100

Note: Question No. 1 is compulsory. Attempt five questions in total, select one question from each section.

1. (i) Describe the development of EV in 20th Century.
- (ii) Define the specific energy in battery specification.
- (iii) Write brief about EV communication.
- (iv) What are the ancillary services in V2G? 20

Section-A

2. Explain the types of Electric Vehicles. 20
3. Describe the advantages and disadvantages of EV. 20

Section-B

4. Write short note on : 20
- (i) Cell and battery voltage
 - (ii) Charge capacity
5. Explain the types of battery. 20

Section-C

6. Explain the charging methods in EV. 20
7. Explain the component of EV charging station. 20

Section-D

8. Explain the interconnection requirement of converter. 20
9. Explain the converter topology in details. 20

M. Tech. (Power System), 3rd Semester
Examination, December-2023
FACTS AND CUSTOM POWER DEVICES
Paper-22MPS23C1

Time allowed : 3 hours]

[Maximum marks : 100

Note : First question is compulsory. Attempt five questions in all, selecting one question from each Section.

1. (a) What are the objectives of FACTS Technology? State that how these objectives can be achieved?
- (b) Explain DSTATCOM with characteristics a neat sketch.
- (c) Discuss in brief about Reactive Power Compensation (RPC) theory for transmission system.
- (d) Mention loads that create harmonics. Explain ways to mitigate harmonics. 4×5

Section-A

2. Write technical notes on: Shunt connected FACTS controllers and Series connected FACTS controllers.20
3. What is the use of tripping generators in case of overloading of the power lines? Explain. 20

Section-B

4. What are the advantages of static var compensators? Discuss the operation of Static Series Compensators.20

5. Draw and explain V-I characteristic of the SVC and the STATCOM. Compare SVC and STATCOM. 20

Section-C

6. (a) What is the need for Interline Power Flow Controller (IPFC)? Explain its operation. 10
- (b) How UPQC protects the load from harmonic voltages? Discuss. 10
7. Write a detailed note on a Interline Power Flow Controller. Also discuss any one application of it. 20

Section-D

8. List the different compensative types of custom power devices and also explain in detail about the load compensation using any one of the custom power device. 20
9. Write a detail note on : Application of DSTATCOM in distribution systems. 20

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M. A. Public Admn. 3rd Semester
(Open Elective Courses w.e.f. Dec.-2017)
Examination – November, 2023

ENVIRONMENT PROTECTION ADMINISTRATION

Paper : 16PUB02

Time : Three Hours]

[Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

प्रश्नों के उत्तर देने से पहले परीक्षार्थी यह सुनिश्चित कर लें कि उनको पूर्ण एवं सही प्रश्न-पत्र मिला है। परीक्षा के उपरान्त इस संबंध में कोई भी शिकायत नहीं सुनी जायेगी।

Note : Attempt five questions in all, selecting one question from each Unit. Question No. 9 (Unit-V) is compulsory. All questions carry equal marks.

प्रत्येक इकाई से एक प्रश्न का चयन करते हुए, कुल पाँच प्रश्नों के उत्तर दीजिए। प्रश्न संख्या 9 (इकाई-V) अनिवार्य है। सभी प्रश्नों के अंक समान हैं।

UNIT - I

इकाई - I

1. Describe the meaning and significance of Environment. 16
पर्यावरण का अर्थ एवं महत्त्व बताइये।
2. Explain the Environmental Ethics. 16
पर्यावरणीय नैतिकता की व्याख्या कीजिए।

UNIT - II

इकाई - II

3. Explain the features of Bio-Diversity Conservation Act, 2002. 16
जैव-विविधता संरक्षण अधिनियम, 2002 की विशेषताएँ बताइये।
4. Describe the meaning and significance of Environment Protection. 16
पर्यावरण संरक्षण का अर्थ एवं महत्त्व बताइये।

UNIT - III

इकाई - III

5. Describe the control mechanism for Environment Pollution in India. 16

6. Explain the main provisions of Water Pollution (Prevention and Control) Act, 1974. 16

जल प्रदूषण (रोकथाम एवं नियंत्रण) अधिनियम, 1974 के मुख्य प्रावधान बताइये।

UNIT – IV

इकाई – IV

7. Why is active participation of people crucial for effective environmental protection? 16

प्रभावी पर्यावरण संरक्षण के लिए लोगों की सक्रिय भागीदारी क्यों महत्वपूर्ण है ?

8. How can community-based approaches enhance the effectiveness of local environmental management initiatives? 16

समुदाय-आधारित दृष्टिकोण स्थानीय पर्यावरण प्रबंधन पहल की प्रभावशीलता को कैसे बढ़ा सकते हैं ?

UNIT – V

इकाई – V

9. Write short notes on the following : 2 × 8 = 16

निम्नलिखित पर संक्षिप्त टिप्पणियाँ लिखिए :

- (a) What is the purpose of environmental monitoring?

पर्यावरण निगरानी का उद्देश्य क्या है ?

(b) Explain the Environmental challenges in India.

भारत में पर्यावरणीय चुनौतियों की व्याख्या करें।

(c) Give an example of a successful public-private partnership in environmental protection.

पर्यावरण संरक्षण में सफल सार्वजनिक-निजी भागीदारी का एक उदाहरण दीजिए।

(d) Explain the features of Environment Protection Act, 1986.

पर्यावरण संरक्षण अधिनियम, 1986 की विशेषताएँ बताइये।

(e) Describe the causes of Environment Pollution.

पर्यावरण प्रदूषण के कारणों का वर्णन करें।

(f) Mention *four* strategies for enforcing environmental regulations.

पर्यावरण नियमों को लागू करने के लिए चार रणनीतियों का उल्लेख करें।

(g) Explain the role of NGO's in Environment Protection.

पर्यावरण संरक्षण में गैर सरकारी संगठनों की भूमिका स्पष्ट करें।

(h) Define "risk assessment" in the context of environmental management.

पर्यावरण प्रबंधन के संदर्भ में "जोखिम मूल्यांकन" को परिभाषित करें।