

SL.NO:1261

SUBJECT CODE:17CHBS06

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
CIVIL ENGINEERING

GREEN BUILDING MATERIALS

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions
Part-A (10 x 2 =20 Marks)

- 1 Differentiate between Portland cement and regular cement?
- 2 Enlist the major elements of work in carrying capacity.
- 3 Define life cycle assessment.
- 4 List out the applications of bamboo.
- 5 List out the uses of oriented strand board.
- 6 Mention the importance of BIPV.
- 7 Outline the term green building process.
- 8 Rephrase the term Green cement.
- 9 Rephrase the term Hemp fabric and mention its use.
- 10 Define Fullerenes.

Answer **Any FIVE** questions
Part-B (5 x10 =50 Marks)

- 11 a. Compare the Intelligent buildings and Living buildings.
OR
b. Interpret the local environmental factors with examples.
- 12 a. Identify and explain the paving materials for green building.
OR
b. Interpret Nano architecture with examples.
- 13 a. Mention the current issues and trends on green building.
OR
b. Describe the characteristics of green building.
- 14 a. Explain about Criteria for rating system.
OR
b. Report the green issues in detail.
- 15 a. Explain about site's existing air quality in brief.

p.t.o

2

OR

b. Describe briefly about the Natural fiber polystyrene and isocyanurate.

16 a. Discuss in detail about green cement.

OR

b. Describe about Sick Building Syndrome(SBS) and its effect.

17 a. Summarize the benefits of Traditional Veneer wood Flooring.

OR

b. Explain about coco and leather tiles in detail.

18 a. Discuss about nanotechnology in steel.

OR

b. Describe the uses of nano technologies for green buildings.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Identify and explain the non conventional sources of energy and recyclable resources.

OR

b. Discuss about the sustainable green building and its importance.

20 a. Explain in detail about green materials and depleting resources of building materials.

OR

b. Discuss in detail about nanocement, insulating nano enhanced coatings and Energy Generation with BIPV.

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SL.NO:1212

SUBJECT CODE:17CHBS03

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
BIOTECHNOLOGY

BIOORGANIC CHEMISTRY

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions
Part-A (10 x 2 =20 Marks)

- 1 O- carboxy phenyl β - D- glucoside is hydrolysed 10^4 times faster than p- carboxyphenyl Analog-Justify
- 2 How biological process get energy for performing cell reactions?
- 3 Define immobilized enzyme.
- 4 List the role of catalyst in enzyme chemistry.
- 5 Define biomimetic cyclisation process.
- 6 Outline the proximity effects in bioorganic chemistry.
- 7 Illustrate the asymmetric synthesis of amino acid.
- 8 What is Analgesics.
- 9 Illustrate about bis crown ether.
- 10 Write about metalloproteins.

Answer **Any FIVE** questions
Part-B (5 x10 =50 Marks)

- 11 a. Examine the proximity effects in bioorganic chemistry.
OR
b. Analyze about the Corey's method for the synthesis of amino acids.
- 12 a. Distinguish between the various types of mutagenesis
OR
b. Examine the role of enzymes in organic synthetic chemistry.
- 13 a. Explain in detail about crown ethers and its analogues.
OR
b. Describe the molecular recognition and its types.

(p.t.o)

2

14 a. Explain about complementary bifunctional catalysis with examples

OR

b. Discuss the Retrosynthetic analysis of peptides.

15 a. Explain about Acid base and covalent catalysis.

OR

b. Discuss the role of serine protease in enzyme chemistry.

16 a. Explain how micelles acting as enzyme models?

OR

b. Discuss in detail about Azo Crown ethers.

17 a. Describe coenzyme chemistry in detail.

OR

b. Discuss the role of zinc in carboxy peptidase.

18 a. Explain in detail on hydrolysis of peptides.

OR

b. Explain about the biomodels of photosynthesis.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Inspect about the Molecular adaptation involved in bioorganic chemistry.

OR

b. Explain the concept of immobilization and discuss the different types of immobilization.

20 a. Illustrate the concept of design of Molecular cleft in enzyme chemistry.

OR

b. Explain the importance of metal ion in carboxy peptidase.

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SL.NO: 1040

SUBJECT CODE:17CHBS10

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E./ B.TECH DEGREE EXAMINATIONS- FEB-2022
PHARMACEUTICAL ENGINEERING
FUNDAMENTALS OF CHEMISTRY

Time : Three Hours

Maximum Marks:100 Marks

Answer ALL questions
Part-A (10 x 2 =20 Marks)

- 1 Identify the product of reaction of thiophene with the following reagents.
a)Nitric acid in acetic anhydride b)SO₃/Pyridine
- 2 Generalize the reduction reaction of carbonyl compound
- 3 What is bond dissociation energy?
- 4 State geometrical isomerism.
- 5 Write briefly on configurational isomers?
- 6 Express the term functional isomerism.
- 7 Write a short note on aldol condensation reaction.
- 8 State huckle rule of aromaticity.
- 9 List the uses of THF.
- 10 Predict the product of reaction of pyrrole with the following reagent.
a)Nitric acid in acetic anhydride b)SO₃/Pyridine

Answer Any FIVE questions
Part-B (5 x10 =50 Marks)

- 11 a. Compare configurational and conformational isomers.
OR
b. Identify the structural isomerism of the following molecular formula i. C₄H₁₀ ii. C₃H₈O
- 12 a. Illustrate the theory of orientation based on stability of carbonium ion.
OR
b. What are the principal factors that affect nucleophilicity.

(p.t.o)

13 a. Define geometrical isomerism. How are the geometrical isomerism designated?

OR

b. Discuss the polarization with examples.

14 a. Describe tautomerism. How does it differ from resonance?

OR

b. Give an account on Structural isomerism.

15 a. Explain about chirality in detail.

OR

b. Describe the reactions of carbonyl compounds.

16 a. Explain the mechanism of E1 reaction.

OR

b. List out the criteria of Huckel aromaticity.

17 a. Report on Haworth's synthesis of naphthalene.

OR

b. Discuss the structure and properties of phenanthrene.

18 a. Identify the natural sources of heterocyclic compound and list their importance.

OR

b. Discuss the electrophilic substitution reaction of Quinoline.

**Answer ALL questions
PART-C (2 x 15 = 30)**

19 a. Illustrate the optical isomerism of tartaric acid and geometrical isomerism of maleic and fumaric acids.

OR

b. Illustrate the electrophilic substitution reactions of thiophene.

20 a. Describe the reactions of carbonyl compounds.

OR

b. Describe the methods of preparation, properties and uses of anthracene.

SL.NO:10004

SUBJECT CODE:17CHBS01

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E/ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMMON TO ALL
ENVIRONMENTAL SCIENCE AND ENGINEERING

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions
Part-A (10 x 2 =20 Marks)

- 1 Define deforestation.
- 2 Define ecological pyramids. Mention their types.
- 3 Define the terms (a) Extinct species (b) Vulnerable species.
- 4 Define BOD and COD
- 5 Define Environmental ethics.
- 6 State the term waste land reclamation.
- 7 Define the term NIMBY syndrome.
- 8 Paraphrase the terms pressure group and watch dog.
- 9 Paraphrase the terms endemic species and endangered species.
- 10 Paraphrase the term cryopreservation.

Answer **Any FIVE** questions
Part-B (5 x10 =50 Marks)

- 11 a. Illustrate water cycle with a neat diagram.
OR
b. Illustrate vermi composting in detail.
- 12 a. Discuss the causes of deforestation and their ill effects.
OR
b. Give a detailed note on (a) Timber extraction and (b) Mining
- 13 a. Describe Nuclear energy in detail. Add a note on its ill effects on human health and environment.
OR
b. Discuss in detail the conservation of natural resources.
- 14 a. Explain detailed account on ecological pyramids.
OR
b. Discuss the advantages and disadvantages of ex-situ conservation of biodiversity.

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15 a. Describe National Parks in detail.

OR

b. Summarize hazardous wastes.

16 a. Describe landfilling and incineration in detail.

OR

b. Discuss the need for water conservation? Explain the strategies of water conservation.

17 a. Explain the causes, effects and control measures of global warming.

OR

b. Explain Environment (Protection) Act, 1986 in detail.

18 a. Discuss the causes, characteristics and problems of population growth.

OR

b. Discuss the need, objectives and various schemes of women welfare.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Differentiate and explain in-situ and ex-situ conservation of biodiversity

OR

b. Describe the structure and function of (a) Forest ecosystem (b) Pond Ecosystem.

20 a. Discuss the process of sewage water treatment

OR

b. Explain the causes, effects and control of AIDS.
