

Roll No. _____

[Total No. of Pages : 2

PGIIS-1094 A-19
M.Sc. II Semester Degree Examination
BIOTECHNOLOGY
(General Biotechnology)
Paper : OET-2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

1. Section A has all compulsory questions.
2. Answer B and C sections as per instructions.

SECTION - A

Answer the following.

(10×2=20)

1. Totipotency
2. House keeping gene.
3. Theory of Abiogenesis.
4. Endospore.
5. Generation time.
6. Continuous growth.
7. Cell culture.
8. Cybrids.
9. Viral Vector.
10. Transgenics.

SECTION - B

Answer the following.

(6×4=24)

11. Explain the contributions of Antony Van Leeuwenhoek.
12. Describe sewage treatment.
13. Write an account on somatic embryogenesis.

PGIIS-1094 A-19/2019

(1)

[Contd....

1

14. Describe the Protoplast isolation.
15. Explain the expression vectors.
16. Write an account on DNA fingerprinting.

SECTION - C

(3×12=36)

Answer any **Three** of the following.

17. Write a note on Ultra structure of Bacteria.
 18. Describe the methodology of the transgenic animal production.
 19. Discuss in detail molecular mechanism on mutations.
 20. Give an account Androgenesis and its applications in genetics and plant breeding.
-

PGIIS-1094 A-19
M.Sc. II Semester Degree Examination
BIOTECHNOLOGY
(General Biotechnology)
Paper : OET-2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

1. Section A has all compulsory questions.
2. Answer B and C sections as per instructions.

SECTION - A

(10×2=20)

Answer the following.

1. Totipotency
2. House keeping gene.
3. Theory of Abiogenesis.
4. Endospore.
5. Generation time.
6. Continuous growth.
7. Cell culture.
8. Cybrids.
9. Viral Vector.
10. Transgenics.

SECTION - B

(6×4=24)

Answer the following.

11. Explain the contributions of Antony Van Leeuwenhoek.
12. Describe sewage treatment.
13. Write an account on somatic embryogenesis.

14. Describe the Protoplast isolation.
15. Explain the expression vectors.
16. Write an account on DNA fingerprinting.

SECTION - C

(3×12=36)

Answer any **Three** of the following.

17. Write a note on Ultra structure of Bacteria.
 18. Describe the methodology of the transgenic animal production.
 19. Discuss in detail molecular mechanism on mutations.
 20. Give an account Androgenesis and its applications in genetics and plant breeding.
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1056 A-19

M.Sc II Semester (CBCS) Degree Examination

ELECTRONICS AND INSTRUMENTATION

Introduction to Electronic Instrumentation

Paper : OE - 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer the questions as per the instructions

PART - A

1. Answer any **EIGHT** questions :

(8 × 2 = 16)

- a) Define Transducer.
- b) Explain Intelligent instruments.
- c) Define control system.
- d) Give the principle of Thermistor.
- e) Name any four Recorders.
- f) Name any pressure Transducer.
- g) Write the Ideal characteristics of op-amp.
- h) Draw the circuit diagram for op-amp as an Adder.
- i) Write the principle of Ammeter.
- j) Draw the block diagram of CRO.

PART - B

Answer any **FOUR** questions of the following :

(4×7=28)

2. Define the static characteristics of any Instrument.
3. Write the comparison between open loop and closed loop control systems.

PGIIS-1056 A-19/2019

(1)

[Contd....

4. Explain the working of strip chart Recorders.
5. With a neat circuit diagram, explain Instrumentation Amplifier.
6. Give a comparative study between Analog and Digital Instruments.
7. Explain the working of Multimeter.

PART - C

Answer any **THREE** questions of the following.

(3×12=36)

8. With a neat block diagram, explain the functional elements of measurement system.
 9. With a neat diagram explain the working principle and applications of LVDT.
 10. With a neat circuit diagrams, explain the op-amp configurations.
 11. With a neat block diagram, explain Analog frequency meter.
 12. Write short notes on any **TWO** :
 - a) Standards
 - b) Strain Gauges
 - c) Filters
 - d) Voltmeter
-

Roll No. _____

[Total No. of Pages : 2]

PGIIS-1056 A-19
M.Sc II Semester (CBCS) Degree Examination
ELECTRONICS AND INSTRUMENTATION
Introduction to Electronic Instrumentation
Paper : OE - 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer the questions as per the instructions

PART - A

1. Answer any **EIGHT** questions :

(8 × 2 = 16)

- a) Define Transducer.
- b) Explain Intelligent instruments.
- c) Define control system.
- d) Give the principle of Thermistor.
- e) Name any four Recorders.
- f) Name any pressure Transducer.
- g) Write the Ideal characteristics of op-amp.
- h) Draw the circuit diagram for op-amp as an Adder.
- i) Write the principle of Ammeter.
- j) Draw the block diagram of CRO.

PART - B

Answer any **FOUR** questions of the following :

(4×7=28)

2. Define the static characteristics of any Instrument.
3. Write the comparison between open loop and closed loop control systems.

PGIIS-1056 A-19/2019

(1)

[Contd....]

4. Explain the working of strip chart Recorders.
5. With a neat circuit diagram, explain Instrumentation Amplifier.
6. Give a comparative study between Analog and Digital Instruments.
7. Explain the working of Multimeter.

PART - C

Answer any **THREE** questions of the following.

(3×12=36)

8. With a neat block diagram, explain the functional elements of measurement system.
 9. With a neat diagram explain the working principle and applications of LVDT.
 10. With a neat circuit diagrams, explain the op-amp configurations.
 11. With a neat block diagram, explain Analog frequency meter.
 12. Write short notes on any **TWO** :
 - a) Standards
 - b) Strain Gauges
 - c) Filters
 - d) Voltmeter
-

Roll No. _____

[Total No. of Pages : 2]

PGIIS-1085 A-19
M.Sc II Semester Degree Examination
MICROBIOLOGY
Microbes in Human Welfare
Paper : OE - 2.4

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates:

Answer all sections.

SECTION - A

1. Write brief notes on any **TEN** of the following : (10×2=20)
- a. Sterilization
 - b. Slant culture
 - c. PGPR
 - d. Viruses
 - e. Budding
 - f. Nitrification
 - g. Beverage
 - h. Antibiotic
 - i. MTCC
 - j. Algae
 - k. Probiotics
 - l. Prophylaxis

SECTION - B

Write short note on any **SIX** of the following : (6×5=30)

2. Pure culture techniques
3. Shape and structure of bacteria
4. Taxonomy of microorganisms

PGIIS-1085 A-19/2019

(1)

[Contd....]

5. Microbiological quality and standards of water
6. Biological nitrogen fixation
7. Role of microbes in soil fertility
8. Concepts and principles of immunity

SECTION - C

Answer any **THREE** of following :

(3×10=30)

9. Write a detailed account on nutrition and medicinal value of fermented foods
 10. Give an account of isolation and cultivation of microorganisms
 11. Explain the role of microorganisms in human health
 12. Discuss the different types of fermenters and fermentation.
-

Roll No. _____

[Total No. of Pages : 2]

PGIIS-1085 A-19
M.Sc II Semester Degree Examination
MICROBIOLOGY
Microbes in Human Welfare
Paper : OE - 2.4

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates:

Answer all sections.

SECTION - A

1. Write brief notes on any **TEN** of the following : **(10×2=20)**
- a. Sterilization
 - b. Slant culture
 - c. PGPR
 - d. Viruses
 - e. Budding
 - f. Nitrification
 - g. Beverage
 - h. Antibiotic
 - i. MTCC
 - j. Algae
 - k. Probiotics
 - l. Prophylaxis

SECTION - B

Write short note on any **SIX** of the following : **(6×5=30)**

2. Pure culture techniques
3. Shape and structure of bacteria
4. Taxonomy of microorganisms

PGIIS-1085 A-19/2019

(1)

[Contd....]

5. Microbiological quality and standards of water
6. Biological nitrogen fixation
7. Role of microbes in soil fertility
8. Concepts and principles of immunity

SECTION - C

Answer any **THREE** of following :

(3×10=30)

9. Write a detailed account on nutrition and medicinal value of fermented foods
10. Give an account of isolation and cultivation of microorganisms
11. Explain the role of microorganisms in human health
12. Discuss the different types of fermenters and fermentation.

Roll No. _____

[Total No. of Pages : 3

PGIIS-2019 A-19
M.Sc. II Semester (CBCS) Degree Examination
STATISTICS
(Basic Statistics)
Paper - OET - 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer any Six questions from Part - A and Five questions from Part - B.

Part - A

(6×5=30)

1. What do mean by cumulative frequency curve? What are the different types of Ogives? Explain their uses.
2. Define classification. Discuss various types of classification with examples.
3. What are the good properties of an ideal measure of dispersion?
4. What are the partition values? Write a note on quartiles.
5. Define mean deviation. Find mean deviation from mean for first 10 natural numbers.
6. Define dispersion. Compare absolute measures and relative measures of dispersion.
7. Write a note on skewness. How do you measure it by Karl Pearson's coefficient method.
8. Define correlated variables. Explain different types of correlation with examples.

Part - B

(5×10=50)

9. a) Define frequency table. Outline the construction of frequency table with class intervals.
- b) Outline the construction of frequency polygon.

(5+5)

10. a) Distinguish between median and mode.

b) The following table gives the length of life of 150 electric lamps. Determine mode by grouping.

| | | | | | | | | | |
|--------------|-------|---------|----------|-----------|-----------|-----------|-----------|-----------|-------|
| Life (hours) | 0-400 | 400-800 | 800-1200 | 1200-1600 | 1600-2000 | 2000-2400 | 2400-2800 | 2800-3200 | |
| No. of lamps | 4 | 12 | 40 | 41 | 27 | 13 | 9 | 4 | (5+5) |

11. a) Define Arithmetic mean. Explain Short - cut method of computation of arithmetic mean.

b) There are 40 students in a class. Their average marks in an examination is 63%. Among these students some are boys and their average marks is 61%. The girls of the class have average marks 66%. What is total number of girls in the class? (5+5)

12. a) Define standard Deviation. Discuss its properties.

b) From the prices X and Y of shares A and B respectively given below, state which share is more stable in value.

| | | | | | | | | | | |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Price of Share A (X) | 55 | 54 | 52 | 53 | 56 | 58 | 52 | 50 | 51 | 49 |
| Price of Share B (Y) | 108 | 107 | 105 | 105 | 106 | 107 | 104 | 103 | 104 | 104 |

13. The Weekly earnings of a group of workers in a factory are given below. Calculate

i) Karl Pearson's coefficient of skewness

ii) Bowley's coefficient of Skewness. (10)

| | | | | | | | | | | |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Wages (In Rs.) | 8-12 | 12-16 | 16-20 | 20-24 | 24-28 | 28-32 | 32-36 | 36-40 | 40-44 | 44-48 |
| No. of workers | 5 | 6 | 8 | 10 | 25 | 30 | 46 | 50 | 60 | 70 |

14. a) Write a note on Scattered diagram.

b) The frequency distribution of heights of fathers (X) and heights of sons (Y) in inches are given below. (4+6)

| | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|
| X | 66 | 68 | 69 | 72 | 65 | 59 | 62 | 67 | 61 | 71 |
| Y | 65 | 64 | 67 | 69 | 64 | 60 | 59 | 68 | 60 | 64 |

Calculate Karl Pearson's coefficient of correlation and interpret it.

15. a) Define Kurtosis. How do you measure it by moments?

b) The following data are given for marks in English and Mathematics in certain examination. (4+6)

| | English | Mathematics |
|---------------|---------|-------------|
| Mean marks | 39.5 | 47.5 |
| S.D. Of marks | 10.8 | 16.8 |

Coefficient of correlatin between marks in english and Mathematics is 0.42. Find the two regresssion lines.

16. Write a short notes on any two of the following : (5+5)

- Bivariate frequency distribution.
- Need of measures of dispersion.
- Scattered diagram
- Regression lines.



Roll No. _____

[Total No. of Pages : 3

PGIIS-2019 A-19
M.Sc. II Semester (CBCS) Degree Examination
STATISTICS
(Basic Statistics)
Paper - OET - 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer any **Six** questions from Part - A and **Five** questions from Part - B.

Part - A

(6×5=30)

1. What do mean by cumulative frequency curve? What are the different types of Ogives? Explain their uses.
2. Define classification. Discuss various types of classification with examples.
3. What are the good properties of an ideal measure of dispersion?
4. What are the partition values? Write a note on quartiles.
5. Define mean deviation. Find mean deviation from mean for first 10 natural numbers.
6. Define dispersion. Compare absolute measures and relative measures of dispersion.
7. Write a note on skewness. How do you measure it by Karl Pearson's coefficient method.
8. Define correlated variables. Explain different types of correlation with examples.

Part - B

(5×10=50)

9. (a) Define frequency table. Outline the construction of frequency table with class intervals.
- b) Outline the construction of frequency polygon. **(5+5)**

10. a) Distinguish between median and mode.

b) The following table gives the length of life of 150 electric lamps. Determine mode by grouping.

| | | | | | | | | | |
|--------------|-----|------|------|-------|-------|-------|-------|-------|-------|
| Life (hours) | 0- | 400- | 800- | 1200- | 1600- | 2000- | 2400- | 2800- | |
| | 400 | 800 | 1200 | 1600 | 2000 | 2400 | 2800 | 3200 | |
| No. of lamps | 4 | 12 | 40 | 41 | 27 | 13 | 9 | 4 | (5+5) |

11. a) Define Arithmetic mean. Explain Short - cut method of computation of arithmetic mean.

b) There are 40 students in a class. Their average marks in an examination is 63%. Among these students some are boys and their average marks is 61%. The girls of the class have average marks 66%. What is total number of girls in the class? (5+5)

12. a) Define standard Deviation. Discuss its properties.

b) From the prices X and Y of shares A and B respectively given below, state which share is more stable in value.

| | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Price of | 55 | 54 | 52 | 53 | 56 | 58 | 52 | 50 | 51 | 49 |
| Share A(X) | | | | | | | | | | |
| Price of | 108 | 107 | 105 | 105 | 106 | 107 | 104 | 103 | 104 | 104 |
| Share B(Y) | | | | | | | | | | |

13. The Weekly earnings of a group of workers in a factory are given below. Calculate

i) Karl Pearson's coefficient of skewness

ii) Bowley's coefficient of Skewness. (10)

| | | | | | | | | | | |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Wages (In Rs.) | 8-12 | 12-16 | 16-20 | 20-24 | 24-28 | 28-32 | 32-36 | 36-40 | 40-44 | 44-48 |
| No. of workers | 5 | 6 | 8 | 10 | 25 | 30 | 46 | 50 | 60 | 70 |

14. a) Write a note on Scattered diagram.

b) The frequency distribution of heights of fathers (X) and heights of sons (Y) in inches are given below. (4+6)

| | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|
| X | 66 | 68 | 69 | 72 | 65 | 59 | 62 | 67 | 61 | 71 |
| Y | 65 | 64 | 67 | 69 | 64 | 60 | 59 | 68 | 60 | 64 |

Calculate Karl Pearson's coefficient of correlation and interpret it.

15. a) Define Kurtosis. How do you measure it by moments?
b) The following data are given for marks in English and Mathematics in certain examination. (4+6)

| | English | Mathematics |
|---------------|---------|-------------|
| Mean marks | 39.5 | 47.5 |
| S.D. Of marks | 10.8 | 16.8 |

Coefficient of correlatin between marks in english and Mathematics is 0.42. Find the two regresssion lines.

16. Write a short notes on any **two** of the following : (5+5)
- i) Bivariate frequency distribution.
 - ii) Need of measures of dispersion.
 - iii) Scattered diagram
 - iv) Regression lines.



Roll No. _____

[Total No. of Pages : 2

PGIIS- 1095 A-19
M.Sc. II Semester (CBCS) Degree Examination
MATERIALS SCIENCE
(Nanoscience And Technology)
Paper -OET.2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates:

- i. Write the Q. No. clearly.
- ii. Draw a neat labelled diagram wherever necessary.

PART - A

1. Answer any **Eight** of the following.

(8×2=16)

- i) Define nanotechnology.
- ii) State the Moore's law.
- iii) Differentiate between MEMs and NEMs.
- iv) Mention the significance of catalysis.
- v) What do you mean by HOMO and LUMO?
- vi) What is the effect of particle size on cluster?
- vii) Name the techniques for the growth of nanowires.
- viii) Mention the importance of hierarchical materials.
- ix) With suitable example, give an account for bottom - up approach for synthesis of nanomaterials.
- x) Define chemical functionalization.

PART -B

Answer any four of the following:

(4×16=64)

2. Write a brief account on fullerenes and quantum dots.
3. Discuss the environmental and ethical issues of nanotechnology.
4. Discuss the inadequacies of the classical mechanics.

5. Explain the salient features of ID material. Discuss its physical properties and phenomena.
 6. With relevant example, highlight the features of microbial routes to synthesize nanomaterials.
 7. Write short notes on any Two of the following: (2×8=16)
 - a) CNTs
 - b) Optical properties of clusters
 - c) Solvo-thermal and combustion techniques.
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1079 A-19
M.Sc II Semester Degree Examination
BOTANY
(Biofertilizers and Biopesticides)
Paper : OET 2.4.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer any **Five** questions.
- 2) **Q.No 1** is compulsory

1. Answer in One or Two sentences.

(10×2=20)

- a) Frankia
- b) Phosphobacteria
- c) Heterocyst
- d) Azolla
- e) Glomus mossae
- f) Wet sieving
- g) Trichoderma
- h) Biopesticide
- i) Bacillus thuringiensis
- j) Denitrifying Bacteria

2. Give an account of Bacterial fertilizers.

(15)

3. Write a detailed account of Blue green algae as biofertilizer.;

(15)

4. Give an account of mycorrhizae as biofertilizers.

(15)

PGIIS-1079 A-19/2019

(1)

[Contd....

5. Give a detailed account of fungal and bacterial biopesticides.

(15)

6. Write short notes on any **THREE** of the following

(3×5=15)

- a) Mass production of AZO spirillum
 - b) Azolla as biofertilizer
 - c) Culturing of mycorrhizae
 - d) Insecticidal plants
-

3×5=15

(15)

Roll No. _____

[Total No. of Pages : 2

PGIIS-1079 A-19

M.Sc II Semester Degree Examination

BOTANY

(Biofertilizers and Biopesticides)

Paper : OET 2.4.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer any Five questions.
- 2) Q.No 1 is compulsory

1. Answer in One or Two sentences.

(10×2=20)

- a) Frankia
- b) Phosphobacteria
- c) Heterocyst
- d) Azolla
- e) Glomus mossae
- f) Wet sieving
- g) Trichoderma
- h) Biopesticide
- i) Bacillus thuringiensis
- j) Denitrifying Bacteria

2. Give an account of Bacterial fertilizers.

(15)

3. Write a detailed account of Blue green algae as biofertilizer.;

(15)

4. Give an account of mycorrhizae as biofertilizers.

(15)

PGIIS-1079 A-19/2019

(1)

[Contd....

5. Give a detailed account of fungal and bacterial biopesticides.

(15)

6. Write short notes on any **THREE** of the following

(3×5=15)

- a) Mass production of AZO spirillum
 - b) Azolla as biofertilizer
 - c) Culturing of mycorrhizae
 - d) Insecticidal plants
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1068 A-19
M.Sc II Semester Degree Examination
ZOOLOGY
(Economic Zoology)
Paper : OET 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) All questions carry equal marks.
- 2) Illustrate your answers wherever necessary.

1. Answer the following in brief.

(8×2=16)

- a) Live food
- b) Pens
- c) Bee plants
- d) Giriraj
- e) Uzi fly
- f) Jungle fowl
- g) Incubation
- h) Poultry waste

2. a) Describe in detail on Fish feed technology.

(16)

(OR)

b) Describe scope and importance of Apiculture practices in India.

3. a) Give a detailed account on silkworm pathology.

(16)

(OR)

b) Give a detailed account on major diseases of poultry.

PGIIS-1068 A-19/2019

(1)

[Contd....

4. Write explanatory notes on any **Two** of the following.

(2×8=16)

- a) Management of Hatcheries
- b) Honey and its chemical composition
- c) Breeding techniques of poultry breed

5. Write short notes on any **Four** of the following

(4×4=16)

- a) Seed cocoons
 - b) White Leghorn
 - c) Lac insect
 - d) Stocking ponds
 - e) Pollen calender
 - f) Artificial hatching
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1068 A-19
M.Sc II Semester Degree Examination
ZOOLOGY
(Economic Zoology)
Paper : OET 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) All questions carry equal marks.
- 2) Illustrate your answers wherever necessary.

1. Answer the following in brief.

(8×2=16)

- a) Live food
- b) Pens
- c) Bee plants
- d) Giriraj
- e) Uzi fly
- f) Jungle fowl
- g) Incubation
- h) Poultry waste

2. a) Describe in detail on Fish feed technology.

(16)

(OR)

b) Describe scope and importance of Apiculture practices in India.

3. a) Give a detailed account on silkworm pathology.

(16)

(OR)

b) Give a detailed account on major diseases of poultry.

PGIIS-1068 A-19/2019

(1)

[Contd....

4. Write explanatory notes on any **Two** of the following.

(2×8=16)

- a) Management of Hatcheries
- b) Honey and its chemical composition
- c) Breeding techniques of poultry breed

5. Write short notes on any **Four** of the following

(4×4=16)

- a) Seed cocoons
 - b) White Leghorn
 - c) Lac insect
 - d) Stocking ponds
 - e) Pollen calender
 - f) Artificial hatching
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1100 A-19

M.Sc. II Semester (CBCS) Degree Examination

ENVIRONMENTAL SCIENCE

(Natural Resources and Management)

Paper : OET - 2.1

(NEW)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer **all** Sections.
- 2) **Section - A** is compulsory

SECTION - A

1. Answer any **Ten** of the following

(10×2=20)

- a) Hydrosphere
- b) Pyrolysis
- c) Eutrophication
- d) Soil Erosion
- e) Biogas
- f) Tidal Energy
- g) Bio-fuels.
- h) Nematode
- i) Agro-Forestry
- j) Wind Energy
- k) Social forest
- l) Pathogens

SECTION - B

Answer any **Six** of the following

(6×5=30)

2. Explain the role of woman in conservation of Natural Resources.
3. Describe role of organic matter and its maintenance
4. Give an account on wetland management.
5. Explain the community forest management.
6. Explain the principles of solar and thermal energy conservation.
7. Describe the application of biomass technology to measure the hydrocarbon chain.
8. Give an account of pest control models.
9. Give a detailed account on chemical pesticide and their demerits.

SECTION - C

Answer any **THREE** of the following:

(3×10=30)

10. Write an essay on Natural Resources.
 11. Discuss in details river conservation programme.
 12. Discuss on oceans ore and recycling of resources energy conservation.
 13. Explain the details on weed management.
 14. Outline the biogas production from solid waste management.
-

Roll No. _____

[Total No. of Pages : 2

PGIIS-1100 A-19

M.Sc. II Semester (CBCS) Degree Examination

ENVIRONMENTAL SCIENCE

(Natural Resources and Management)

Paper : OET - 2.1

(NEW)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer **all** Sections.
- 2) **Section - A** is compulsory

SECTION - A

1. Answer any Ten of the following

(10×2=20)

- a) Hydrosphere
- b) Pyrolysis
- c) Eutrophication
- d) Soil Erosion
- e) Biogas
- f) Tidal Energy
- g) Bio-fuels.
- h) Nematode
- i) Agro-Forestry
- j) Wind Energy
- k) Social forest
- l) Pathogens

SECTION - B

Answer any **Six** of the following

(6×5=30)

2. Explain the role of woman in conservation of Natural Resources.
3. Describe role of organic matter and its maintenance
4. Give an account on wetland management.
5. Explain the community forest management.
6. Explain the principles of solar and thermal energy conservation.
7. Describe the application of biomass technology to measure the hydrocarbon chain.
8. Give an account of pest control models.
9. Give a detailed account on chemical pesticide and their demerits.

SECTION - C

Answer any **THREE** of the following:

(3×10=30)

10. Write an essay on Natural Resources.
 11. Discuss in details river conservation programme.
 12. Discuss on oceans ore and recycling of resources energy conservation.
 13. Explain the details on weed management.
 14. Outline the biogas production from solid waste management.
-