(23)

**SARDAR PATEL UNIVERSITY**
**THIRD YEAR B.Sc. (FIFTH SEMESTER) EXAMINATION**
**2013**
**MONDAY, 25th NOVEMBER**
**10: 30 a.m. to 01: 30 p.m.**
**US05CENV06-POPULATION DYNAMICS AND BIOSTATISTICS**

**Maximum Marks: 70**

Note: 1. Answers of all the questions (including multiple choice questions) should be written in the provided answer book only
2. Draw neat and labelled diagrams wherever necessary.

**Q.1. Select the correct answer and write it in the answer sheet.** **(10)**

1. The term ethics is derived from Greek word_____.
   (a) Ethom     (b) Ecos     (c) Epom     (d) None of these

2. The point at which the growth curve begins to decline is called _____ point.
   (a) Inflection     (b) Infection     (c) Stabilization     (d) Lag

3. *Vibrio cholerae* was first isolated by _____.
   (a) Robert Koch     (b) Thomus Malthus     (c) Richard Nellson     (d) Fernanad Georges

4. _____ causes the disease called as food poisoning.
   (a) *Clostridium tetani*     (b) *Clostridium botulinum*     (c) *Escherichia coli*     (d) *Pseudomonas*

5. Tuberculosis is a _____ disease.
   (a) Water borne     (b) Diet     (c) Infectious     (d) Vector borne

6. Every gallon of gasoline burned release ___ pounds of $CO_2$ back in the atmosphere.
   (a) 250     (b) 25     (c) 26     (d) 35

7. A new car that gets 10 more miles/gallon fuel than the old one, the amount of $CO_2$ reduction realized Is _____pounds/year.
   (a) 3500     (b) 2500     (c) 2400     (d) 2550

8. The most frequent number in a statistical data is known as_____ .
   (a) Mode     (b) Mean     (c) Median     (d) Central tendency

9. The method of obtaining mathematical relationship between two variables is known as____.
   (a) Correlation     (b) Regression     (c) standard deviation     (d) mode

10. If r = 0, the variables are ____and if r = -1, implies that there is_____correlation.
   (a) Uncorrelated, negative     (c) Uncorrelated, positive
   (b) Negative, Uncorrelated     (d) None of these

**Q.2. Answer the following questions in brief (Any 10)**           **(20)**

1. Define Population, Species and Abundance.
2. What is the need of Environmental ethics?
3. Describe Environmental ethics.
4. Describe in brief the disease Rabbies.
5. Write in short about Typhoid fever
6. What is non-communicable disease? Enlist and explain any one of them.
7. Explain controls of acid rain
8. Define sustainable development and write its significance
9. Describe Environmental Degradation
10. Write about Central Tendency measurement
11. Enlist the various types of data presentation.
12. What is the significance of correlation?

**Q.3. a)** Explain the Guiding Principles of Environmental Ethics      **(05)**
      **b)** Explain the analyzing pattern of human population      **(05)**

<div align="center">OR</div>

**Q.3. (a)** Discuss the population as a global environmental problem      **(05)**
      **(b)** Describe three phases of population growth      **(05)**

**Q.4. (a)** Define Health and Disease. Describe the disease Tuberculosis      **(05)**
      **(b)** Write a note on AIDS      **(05)**

<div align="center">OR</div>

**Q.4. (a)** Discuss the entry of environmental pollutants in human body      **(05)**
      **(b)** What is stress? Elaborate its types in detail      **(05)**

**Q.5.** Write in detail about the imperatives for sustainable development      **(10)**

<div align="center">OR</div>

**Q.5 (a)** Write a note on: Household energy conservation      **(05)**
      **(b)** Explain the concepts of sustainable development      **(05)**

**Q.6.** Grain lengths of two varieties of rice are given below. Calculate the mean, mode and median of grain length of two varieties.      **(10)**

| Variety A | | Variety B | |
|---|---|---|---|
| Grain length | No. of grain | Grain length | No. of grain |
| 9-11 | 3 | 9-11 | 0 |
| 12-14 | 5 | 12-14 | 8 |
| 15-17 | 9 | 15-17 | 8 |
| 18-20 | 3 | 18-20 | 4 |

<div align="center">OR</div>

**Q.6.** Calculate correlation coefficient and derive the regression equation of the following      **(10)**

| X | 10 | 13 | 16 | 19 | 20 |
|---|---|---|---|---|---|
| Y | 03 | 05 | 09 | 03 | 02 |

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