

Navrachana University
School of Liberal Studies and Education, B.Sc Program
End-Semester Examination November 2017
Third Year and Semester V
Environmental Biology and Biostatistics ZO303

Date: 24/11/2017
Time: 1:00-3:00pm

Marks: 40

Instructions:

- Write each answer on a new page
- All the Questions are Compulsory
- Please read the questions carefully and answer accordingly
- Draw a neat and labeled diagram wherever necessary

Q1. Choose the correct answer from the given options:

(1*6=6 Marks)

1) The formation of ozone hole in the Antarctic region has been a cause of concern. What could be the reason for the formation of this hole?

- (a.) Presence of prominent tropo-spheric turbulence; and inflow of chlorofluorocarbons
- (b.) Presence of prominent polar front and stratospheric' clouds; and inflow of chlorofluorocarbons
- (c.) Absence of polar front and stratospheric clouds; and inflow of methane and chlorofluorocarbons
- (d.) Increased temperature at polar region due to global warming

2) Human activities in the recent past have caused the increased concentration of carbon dioxide in the atmosphere, but a lot of it does not remain in the lower atmosphere because of

- 1. Its escape into the outer stratosphere.
- 2. The photosynthesis by photo-plankton in the oceans.
- 3. The trapping of air in the polar ice caps.

Which of the statements given above is/are correct?

- (a.) 1 and 2
- (b.) 2 only
- (c.) 2 and 3
- (d.) 3 only

3) In the context of ecosystem productivity, marine upwelling zones are important as they increase the marine productivity by bringing the:

- 1) Decomposer microorganisms to the surface.
- 2) Nutrients to the surface.
- 3) bottom-dwelling organisms to- the surface.

Which of the statements given above is/are correct?

- (a.) 1 and 2
- (b.) 2 only
- (c.) 2 and 3
- (d.) 3 only

- 4) The accumulation of DDT has decreased the population of pelican ducks because
 - a) Killed all ducks suddenly
 - b) Decreased availability of Ca for egg shells which leads into thin shelled fragile eggs
 - c) Stopped synthesis of eggs
 - d) Interfered Ca metabolism.
- 5) The characteristics or quantity that may vary from one individual to another is called
 - a) Static group
 - b) Variable
 - c) Dynamic group
 - d) Dynamism
- 6) Variables whose value can be expressed numerically are called as
 - a) Quantitative variable
 - b) Qualitative variable
 - c) Absolute variable
 - d) Continues variable.

Q2) Answer in brief, any four

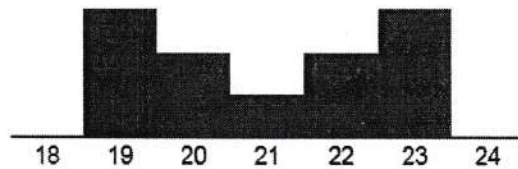
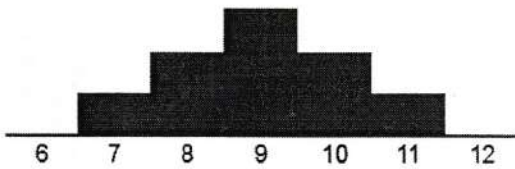
(2*4= 8 marks)

1. What is the difference between the "magnitude" and the "intensity" of an earthquake?
2. What is the difference between global warming and climate change, which is worse than whom?
Justify
3. Differentiate between seasonal and chronic hunger.
4. What do you understand by sustainable agriculture?
5. Histogram or bar graph. Which is better than other, justify?
6. Differentiate between ordinal and nominal data.

Q3) Write short notes on, any three

(3*4= 12 marks)

1. Mainstreaming the role of women in national policy is need of the hour, justify.
2. Early preparedness measures and mitigation strategies for Tsunami.
3. Importance of water, its properties and hydrological cycle.
4. Types of sampling method with their advantage and disadvantage.
5. Consider the histograms below.



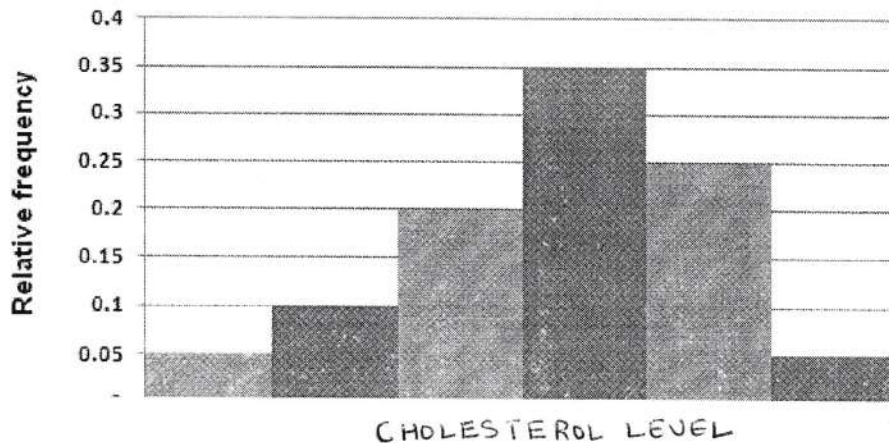
Which of the following statements are true?

- I. Both data sets are symmetric.
II. Labels on the X axis are quantitative.
- a) I only
 - b) II only
 - c) I and II
 - d) Neither is true.
 - e) There is insufficient information to answer this question

Q4) Answer in detail, any two

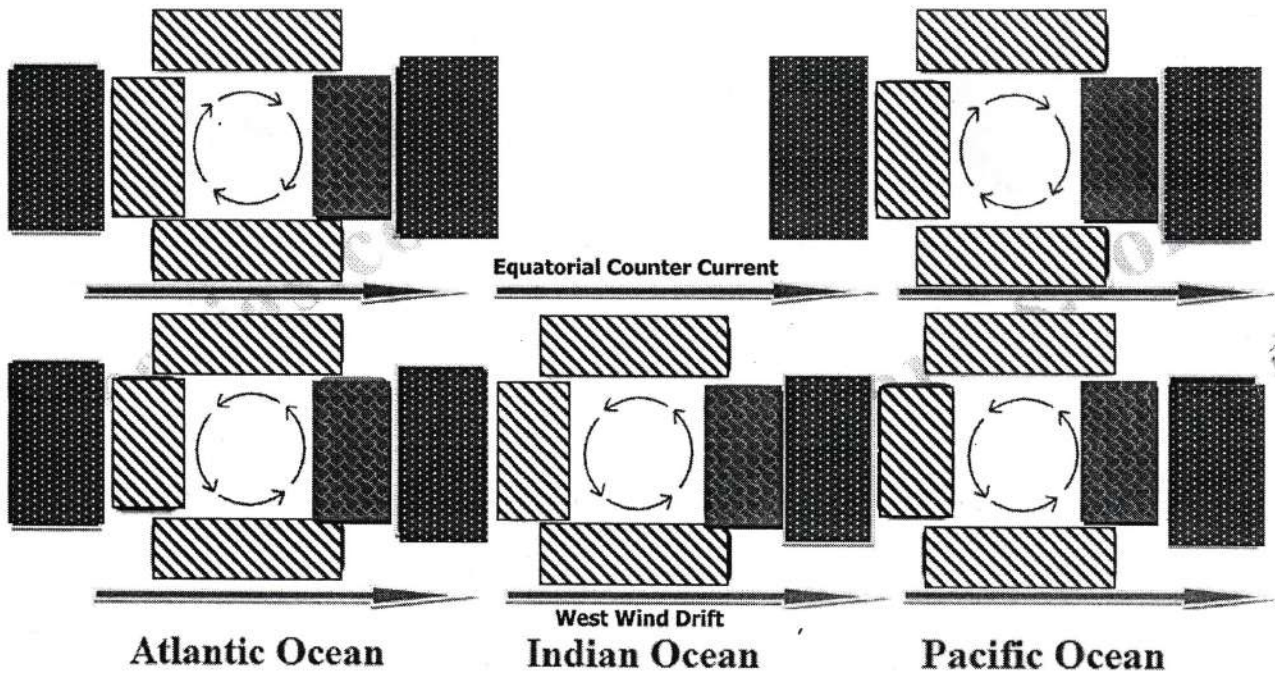
(2*6=12 marks)

- 1) The histogram below shows the level of cholesterol (in mg per dl) of 200 people.
 - a) How many people have a level of cholesterol between 205 and 210 mg per dl?
 - b) How many people have a level of cholesterol less than 205 mg per dl?
 - c) What percentage of people has a level of cholesterol more than 215 mg per dl?
 - d) How many people have a level of cholesterol between 205 and 220 mg per dl?



2) Explain in detail threats to food security and world food problems.

3) Identify the current patterns, nature and effect of ocean current.



Q5. Explain the difference between living, existing and extinction

(2 Marks)

-----End of Question Paper-----