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[A-85]

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SARDAR PATEL UNIVERSITY  
T. Y. B.Sc. (6<sup>th</sup> SEMESTER) EXAMINATION  
Monday, 4<sup>th</sup> April 2016  
02.30 p.m. to 05.30 p.m.  
Environmental Science

US06CENV04 OCEANOGRAPHY AND REMOTE SENSING

Total Marks: 70

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

1. Tides may not be affected by \_\_\_\_\_ feature  
(a) Oceanic physiographic (b) Tidal organisms (c) Sun (d) Moon
2. The depth of the challenger deep is \_\_\_\_\_  
(a) 10,898 to 10,916 m (b) 1.9-2.5 Km (c) 8848-9000 m (d) 19-20 Km
3. Atmospheric circulation drives the movement of \_\_\_\_\_ currents  
(a) Magnetic (b) Ocean (c) Gravitational (d) Electric
4. Water logging of soil caused due to \_\_\_\_\_  
(a) lack of water in pore spaces (b) air in soil pores  
(c) full of water in pore spaces (d) highly drying conditions
5. To study various oceanic features, OCEANSAT was launched in \_\_\_\_\_  
(a) June 1998 (b) October 2003 (c) July 1988 (d) May 2005
6. LANDSAT satellite is located at the altitude of \_\_\_\_\_ km  
(a) 681 (b) 904 (c) 832 (d) 233
7. For majority of vegetation, it is observed \_\_\_\_\_ % reflectance  
(a) 45-50 (b) 60-75 (c) 60-85 (d) 50-65
8. The forest cover of India biennially is surveyed using \_\_\_\_\_ LISS-I data  
(a) IRS-2C (b) IRS-1B (c) IRC-3C (d) IRC-1B
9. Digital environment rely primarily on \_\_\_\_\_ pattern in soil mapping  
(a) statistical (b) chemical (c) atmospheric (d) biographical
10. \_\_\_\_\_ is one of the important components in the hydrologic cycle  
(a) Soil mapping (b) Agriculture (c) Runoff (d) Crop yielding

**Q.2. Answer the following in brief (Any Ten)**

**(20)**

1. Write in brief on continental shelf and ocean ridge
2. Discuss: "Ocean trench"
3. Write a note on Sea Mounts and Guyots
4. Define the term Hydrology
5. Discuss Darcy's law with formula
6. Write a note on processes of earth cooling
7. Write a short note on principle of Remote Sensing
8. Give a short note on Data Acquisition in Remote Sensing
9. Discuss sensors and satellites with reference of Remote Sensing
10. What is Geographic Information System? Discuss in brief
11. Discuss: Digital image processing used in land use/land cover
12. Prepare a flow chart for hydrogeomorphological map using Remote Sensing

Q.3 Discuss: Association between temperature, salinity and ocean circulation? How does it varies with the depth of ocean? **(10)**

**OR**

Q.3 Write a note on dynamical processes produce the tides. Explain the types of tides with pictorial views **(10)**

Q.4 (a) Give a note on typical residence times of water in reservoirs on earth **(06)**

(b) Write a note on inventory of water at the Earth's surface **(04)**

**OR**

Q.4 (a) How do the runoff, infiltration and precipitation help in water cycle? **(06)**

(b) Give a detailed note on hydrological cycle **(04)**

Q.5 (a) Define Remote Sensing with Spectral Signature **(06)**

(b) Write a note on Atmospheric Windows **(04)**

**OR**

Q.5 (a) Write in detail about Indian Imaging Systems **(06)**

(b) Discuss Spectral Characteristics of vegetation with suitable diagrams **(04)**

Q.6 (a) Write a note on application of Remote Sensing in hydrology **(06)**

(b) Discuss data models used in GIS **(04)**

**OR**

Q.6 (a) Write a note on Visual Interpretation used in land use/land cover **(06)**

(b) Give a note on application of Remote Sensing in agriculture **(04)**

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