

GUJARAT NATIONAL LAW UNIVERSITY
GANDHINAGAR
 Course: Space Science and Communication Technology
 Semester-VI (Batch: 2014-19)

End Semester Examination: April-May 2017

Date: 9th May, 2017

Duration: 2 hours

Max. Marks: 40

Instructions:

- Read the questions properly and write the answers in the given answer book.
- The respective marks for each question are indicated in line.
- Do not write any thing on the question paper.
- Indicate correct question numbers in front of the answers.
- No questions or clarifications can be sought during the exam period, answer as it is, giving reason, if any.

Part-A**Marks**

Q.1 Read the case properly and answer the following questions:

(4x2=08)

One of the leading Indian newspapers recently reported the arrest of terrorist in Jammu and Kashmir's Kapawara district. Security sources suspected that he was also involved in some of the previous attacks based on his mobile track records. His mobile phone was seized for further investigation but it was suspected that one of the data was erased.

- (a) What all evidences can be pulled from the device?
- (b) Give the full form of IMSI & IMEI. Also, explain how these will be helpful in investigation.
- (c) Explain any two recovery tools.
- (d) Explain the guidelines for call data record analysis.

Part-B

Q.2 Write four advantages of an active satellite over a passive satellite.

(02)

OR

Explain the criteria used for classification of stars.

Q.3 Explain the types of positioning errors observed in a GPS system.

(02)

Q.4 Explain the multilayer and multispectral image in remote sensing.

(02)

Q.5 Highlight any six factors that are important in the realization of satellite communication.

(03)

Q.6 Name and explain the various equipment that are there on satellite.

(03)

Q.7 Explain the various segments that form part of a GPS system.

(03)

Q.8 Name and explain the effects being faced due to the curvature of an ideal earth in the radio wave propagation.

(03)

Q.9 Highlight the space object characteristics that can be derived from radar measurements of a space debris. (03)

Q.10 Explain the effect that an altitude has on the space debris. (03)

Q.11 Explain the working of a He-Ne Laser with the help of a neat diagram. (04)

OR

What is meant by a clamping circuit? Explain its working with the help of a neat diagram.

Q.12 Name and explain the various scattering losses observed in an optical fibre. (04)
