

M

(Printed Pages 3)

(20514)

Roll No. ....

B.Tech. IV Sem.

**TU-117A**

**B. Tech. Examination, May 2014**

**EC/IT**

**Nano Science**

**BT-425(N)**

*Time : Three Hours /*

*[Maximum Marks : 100]*

**Note :** Attempt any **five** questions. **All** questions carry equal marks.

1. Write short notes on application of nanotechnology.
2. What do you understand by quantum well, quantum wire and quantum dot.? Give example of each. Describe the techniques in details for their formation.

P.T.O.

3. Describe pulse laser deposition technique for the formation of nanomaterials. What are advantages and shortcoming of this method.
4. Discuss the basic principle and fabrication of AFM and TEM.
5. What is the difference between Fullerene and carbon nanotubes? Discuss about their structure, electronic and mechanical properties.
6. Explain
  - (i) Tetrahedrally bounded semiconductor structures.
  - (ii) Energy bands and gaps of semiconductors.
7. Discuss the preparation of quantum Nano structure, size and dimensionality effect.
8. Explain the Lithographic and non-lithographic techniques for nano-materials.

9. Explain Infrared and Raman spectroscopy.

10. Explain

(i) Magic Number

(ii) Single electron transistors.

R. Tech. Examination, May 2014

20/11

Exam Scheme

EE-42001

Time: Three Hours

(Maximum Marks: 100)

Q.1. Attempt any three questions. All parts

have carry equal marks.

Q.2. Write short notes on application of  
Infrared and Raman spectroscopy.

Q.3. Explain the following by giving an example.

(i) Magic Number (ii) Single electron transistor.

Q.4. Explain the following by giving an example.

(i) Magic Number (ii) Single electron transistor.

TU-117A13

M

(Printed Pages 4)

(20514)

Roll No. ....

B.Tech.IV Sem.

**TU-119**

**B.Tech. Examination, May 2014**

**I.T.**

**Web Technology**

**[BT-412(N)]**

*Time : Three Hours ]*

*[Maximum Marks : 100*

**Note :** Attempt any **five** questions. **All** questions carry equal marks.

1. (a) What is web team? Explain the qualities of a good team member. 10
- (b) What do you mean by market research? Why it is essential in project? 10
2. (a) Define the various protocols used in web. 10

**P.T.O.**



- (b) Define the project planning. Why it is essential? 10
3. (a) What do you mean by web browser and web server? Why we use XML? Explain it. 10
- (b) Why CSS is much easier than simple HTML? Explain with an example. 10
4. (a) What do you mean by Java script? Why we use it? Explain. 10
- (b) In which of the way we validate data using java script? Give an example to explain. 10
5. (a) What do you mean by XML? Explain DTD and schemes within the XML with example. 10
- (b) Differentiate between SAX and DOM. 10

6. (a) What do you mean by Java Beans? Why we use it? Explain. 10
- (b) What do mean by EJB? Define its framework, types and uses. 10
7. (a) What do you mean by cookies? Why we use it? 10
- (b) In which of the way we can transfer the data from one page to another using session? Explain. 10
8. Differentiate between the following :
- (a) Servlet and Applet 10
- (b) Servlet and CGI 10
9. (a) What do you mean by JSP? Explain its processing and give its advantages over servlet. 10
- (b) What do mean by JSP bean? Give an

example to explain. 10

10. (a) What do you mean by JDBC? Explain its architecture and procedure to make the connectivity with Java. 10

(b) What do you mean by "Struts"? Explain its processing and give its advantages. 10