

**F 9401**

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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

Branch : Computer Science and Engineering / Information Technology

**COMPUTER NETWORKS (R,T)**

(2002 Admissions onwards—Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all the questions.*

**Part A**

*Each question carries 4 marks.*

1. Explain static channel allocation in LAN's and MAN's.
2. Explain the term ISDN.
3. Discuss communication satellites.
4. Define IEEE 802.3 standards for LAN.
5. Define virtual circuits and datagrams.
6. Define Multicasting.
7. What are internet transfer protocols ? Explain.
8. Briefly explain the function of ATM network.
9. Discuss about Name Servers.
10. Define "Network topology".

(10 × 4 = 40 marks)

**Part B**

*Each question carries 12 marks.*

11. Explain ISDN system Architecture.

*Or*

12. Write notes on :

- (a) Medium earthy orbit satellites.
- (b) Low earth orbit satellites.

**Turn over**

13. Explain Error-detection and correction operation in Data link layer.

Or

14. Explain static and dynamic channel allocations in LAN's and WAN's.

15. Explain the following :—

(a) Distance vector Multicasting.

(b) Choke packets.

Or

16. (a) Discuss congestion prevention policies.

(b) Write notes on traffic shaping.

17. Explain the elements of transport protocols.

Or

18. Explain the OSI transport service primitives.

19. Draw the general model of an electronic mail system and explain each layer.

Or

20. Write notes on :

(a) Bluetooth.

(b) L2CAP layers.

(5 × 12 = 60 marks)

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**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

Branch : Computer Science, Engineering/Information Technology

**NETWORK COMPUTING (R,T)**

(2002 Admissions onwards—Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

**Part A**

*Each question carries 4 marks.*

1. Write notes on tables and frames.
2. Describe DIV and SPAN tags.
3. What is meant by object model ? Explain document object model.
4. Write short notes on structured graphics.
5. Explain variables and classes in Java.
6. Write notes on GUI.
7. What is meant by Applets ? Explain.
8. Discuss Datagrams.
9. What is meant by CGI-GET and POST ? Explain.
10. Discuss HTTP Protocol.

(10 × 4 = 40 marks)

**Part B**

*Each question carries 12 marks.*

11. Write notes on Inline style sheets, Embedded style sheets and External style sheets.

(12 marks)

*Or*

12. Explain Basic tags for Font and Paragraph Formatting Lists.

(12 marks)

13. Write notes on :

(a) Message boxes.

(6 marks)

(b) Event handling.

(6 marks)

*Or*

14. Explain dynamic updating of pages with JAVA Script.

(12 marks)

**Turn over**

Explain the features of Java.

(4 marks)

(b) Explain "Creating and using classes in Java".

(8 marks)

Or

16. Write notes on :

(a) Anonymous Inner Classes.

(6 marks)

(b) Exception handling.

(6 marks)

17. With example, explain network Programming with JAVA.

(12 marks)

Or

18. Write notes on :

(a) RMI.

(6 marks)

(b) IP Multicasting.

(6 marks)

19. Write notes on HTTP Methods.

(12 marks)

Or

20. Explain the working of CGI supported web server.

(12 marks)

(5 × 12 = 60 marks)

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**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

Branch : Electronics and Communication/Information Technology/Applied Electronics and Instrumentation/Electronics and Instrumentation

**DIGITAL SIGNAL PROCESSING (LTAS)**

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

**Part A**

Each question carries 4 marks.

1. Explain why IIR filters cannot have linear phase.
2. Impulse invariant transformation is a many to one transformation. Explain.
3. Compare different window functions.
4. Discuss on the position of the zeros of linear phase FIR filter in the Z plane.
5. Obtain the relationship between Z-Transform and DFT.
6. Explain why DIT FFT and DIF FFT algorithms are called in-place algorithms. Draw the basic butterfly diagram for DIT FFT and DIF FFT algorithms.
7. Compare fixed point and floating point number arithmetic.
8. Explain the possible errors that can occur in the implementation of a digital filter.
9. Explain any two real world applications of Digital signal processing.
10. How do you select a DSP chip for a given application ?

(10 × 4 = 40 marks)

**Part B**

Each question carries 12 marks.

11. Design a digital Butterworth filter to satisfy the following constraints using impulse invariant transformation.

$$\sqrt{0.5} \leq |H(e^{jw})| \leq 1, \quad 0 \leq w \leq 0.5\pi$$

$$|H(e^{jw})| \leq 0.2, \quad 0.75\pi \leq w \leq \pi.$$

(12 marks)

Or

Turn over

12. Design a digital Chebyshev filter to satisfy the following specifications using impulse invariant transformation.

$$\text{Stop band attenuation} \geq 18 \text{ dB}$$

$$\text{Pass band Edge} = 500 \text{ Hz}$$

$$\text{Pass band attenuation} \leq 3.01 \text{ dB}$$

$$\text{Stop band Edge} = 750 \text{ Hz}$$

$$\text{Sampling Frequency} = 1 \text{ kHz.}$$

(12 marks)

13. (a) Obtain the direct form and lattice of realization for the system described by  $H(z) = 1 - 0.9z^{-1} + 0.64z^{-2} - 0.57z^{-3}$ . (8 marks)
- (b) Realize the filter with impulse response  $h[n] = \{1, 2, 3, 4, 3, 2, 1\}$  using minimum number of multipliers. (4 marks)

Or

14. Design filter with the following specifications using Bartlett window. Take  $N = 7$ .

$$H_d(e^{j\omega}) = e^{-j3\omega} \quad 0 \leq |\omega| \leq \frac{\pi}{4}$$

$$= 0 \quad \frac{\pi}{4} \leq |\omega| \leq \pi. \quad (12 \text{ marks})$$

15. Using DFT perform circular convolution of the two sequences

$$x[n] = \cos\left(\frac{n\pi}{2}\right) \quad n = 0, 1, 2, 3 \quad \text{and} \quad h[n] = 2^n \quad n = 0, 1, 2, 3. \quad (12 \text{ marks})$$

Or

16. (a) If  $x[n] = \delta[n] + 3\delta[n-1] + 2\delta[n-3] + 6\delta[n-4]$ , find a finite length sequence  $y[n]$  that has a 6 point DFT  $Y(k)$  given by  $Y(k) = W_3^{2k} X(k)$ , where  $X(k)$  is the DFT of  $x[n]$ . (6 marks)

- (b) If  $x[n] = 2\delta[n] + \delta[n-1] + \delta[n-3]$ , find 5 point IDFT of  $Y(k) = X^2(k)$ , where  $X(k)$  and  $Y(k)$  are the 5 point DFT of the sequences  $x[n]$  and  $y[n]$  respectively. (6 marks)

17. For the transfer function  $H(z) = H_1(z) H_2(z)$ , where  $H_1(z) = \frac{1}{1-0.4z^{-1}}$  and  $H_2(z) = \frac{1}{1-0.3z^{-1}}$ , find the output round off noise power. Take  $b = 4$ . (12 marks)

Or

18. Explain the quantization effects in the floating point realization of second order IIR digital filters and hence derive the expression for output noise variance in second order system. (12 marks)

19. Discuss the application of DSP in :
- Measurement systems.
  - Radar Signal Processing.

(12 marks)

Or

20. Discuss the application of DSP in :
- Speech Processing.
  - Digital processing of audio signals.

(12 marks)

[5 × 12 = 60 marks]

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**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

**Information Technology**

**PERSONAL COMPUTER HARDWARE (T)**

(2002 Admission onwards—Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer **all** the questions.

**Part A**

Each questions carries 4 marks.

1. Explain the features and applications of SMPS.
2. Explain the need for power supply.
3. Explain the Operation of H<sub>DD</sub> with a neat sketch.
4. What is logical block addressing? Explain in detail.
5. Explain the need for Buffers in detail.
6. Give an account on 'RAID'.
7. What is the principle of segmented addressing ?
8. Give an account on 'Advanced memory technologies'.
9. What is IDE ? Explain in detail.
10. Explain the principle of USB in detail.

(10 × 4 = 40 marks)

**Part B**

Each full question carries 12 marks.

11. Draw a neat block diagram for SMPS and explain its working principle in detail.

Or

12. Explain the different types of ports in p.c. in detail.
13. Explain the structure of a Floppy disk controller with a neat diagram.

Or

14. Explain the following in detail.

(a) Programmed I/O.

(b) Ultra DMA.

(6 + 6 = 12 marks)

Turn over

15. Explain the principle of CD technology and holography with neat sketches.

Or

16. Give an account on :

(a) CD-RW.

(b) Optical storage Interfaces.

(6 + 6 = 12 marks)

17. Explain the following in detail :

(a) SRAM.

(b) DRAM.

(c) HMA.

(4 + 4 + 4 = 12 marks)

Or

18. Explain the extended and expanded memory in detail.

19. Explain the principles of ISA and PCI in detail with neat sketches.

Or

20. Write short notes on :

(a) ATA.

(b) Communication ports.

(6 + 6 = 12 marks)

[5 × 12 = 60 marks]



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**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

Branch—Computer Science and Engineering/Information Technology

**SOFTWARE ENGINEERING (R, T)**

(2002 Admissions onwards—Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer **all** the questions.

**Part A**

*Each question carries 4 marks.*

1. Explain in detail the role of management in software development.
2. What is SRS ? Explain in detail.
3. What is Project Scheduling ? Explain in detail.
4. Give an account on 'project monitoring plans'.
5. Explain in detail the module level concepts.
6. What is coupling in system design ? Explain in detail.
7. Explain the need for coding in Software Engineering.
8. Explain in detail "Unit testing".
9. What is Error removal efficiency ? Explain in detail.
10. Explain in detail the fundamentals of testing .

(10 × 4 = 40 marks)

**Part B**

11. Explain in detail the phases in software development. (12 marks)
- Or*
12. Discuss in detail the software development process models. (12 marks)
13. Give an account on 'COCOMO Model'. (12 marks)
- Or*
14. Explain the following in detail :
  - (a) Cost schedule.
  - (b) Milestone graph. (6 + 6 = 12 marks)
15. Explain in detail the principles of system design. (12 marks)

*Or*

**Turn over**

16. Explain the top down and bottom up system design strategies. (12 marks)
17. Explain the following in detail :  
 (a) Structured programming.  
 (b) Information hiding. (6 + 6 = 12 marks)
- Or
18. Explain the principle of Internal documentation in detail. (12 marks)
19. Explain in detail the proneneal and structured testing. (12 marks)
- Or
20. Explain in detail the reliability assessment in testing. (12 marks)
- [5 × 12 = 60 marks]

Part A

Each question carries 4 marks

1. Explain in detail the role of management in software development.
2. What is SRS ? Explain in detail.
3. What is Project Scheduling ? Explain in detail.
4. Give an account on 'project monitoring plans'.
5. Explain in detail the module level concepts.
6. What is coupling in system design ? Explain in detail.
7. Explain the need for coding in Software Engineering.
8. Explain in detail "Unit testing".
9. What is Error removal efficiency ? Explain in detail.
10. Explain in detail the fundamentals of testing.

(10 × 4 = 40 marks)

Part B

11. Explain in detail the phases in software development. (12 marks)
- Or
12. Discuss in detail the software development process models. (12 marks)
13. Give an account on 'COCOMO Model'. (12 marks)
- Or
14. Explain the following in detail :  
 (a) Cost schedule.  
 (b) Milestone graph. (8 + 8 = 12 marks)
15. Explain in detail the principles of system design. (12 marks)
- Or

(8 + 8 = 12 marks)

(12 marks)

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**B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**

**Sixth Semester**

Branch : Information Technology

PROJECT MANAGEMENT (T)

(2002 Admissions onwards—Supplementary)

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.  
Each question carries 4 marks.*

1. Discuss about capital budgeting decisions.
2. List out the requirements of a project manager.
3. What is risk analysis ? Explain.
4. Discuss about market analysis.
5. What is project information system ? Explain.
6. Discuss about ISO 9000 series.
7. Discuss QFD with its limitations.
8. Explain the steps in stratified random sample.
9. Discuss about sample size destination.
10. What is population proportion ? Explain.

(10 × 4 = 40 marks)

**Part B**

*Answer all questions.  
Each question carries 12 marks.*

11. Explain 7 S of project management.

*Or*

12. Discuss the tools and techniques of capital budgeting.
13. Discuss the difference between IRR and ARR.

*Or*

14. Find the NPV and BCR of a project having following cash flow details :

Period	:	0	1	2	3	4	5	6	7
Cash Flow	:	(-) 40	7.3	7.2	7.1	7.3	7.2	7.1	7.3

(in Rs. Lakhs)

**Turn over**

15. Discuss the control systems used in project.

Or

16. Explain about performance review techniques in project management.

17. Discuss in detail about ISO 14000 series.

Or

18. Discuss in detail about procedure for benchmarking.

19. Explain in detail about Type I and II errors in sampling.

Or

20. Explain in detail about TPM in project management perspective.

(5 × 12 = 60 marks)

Maximum : 100 Marks

Time : Three Hours

Answer all questions.  
Each question carries 4 marks

- 1. Discuss about capital budgeting decisions.
- 2. List out the requirements of a project manager.
- 3. What is risk analysis? Explain.
- 4. Discuss about market analysis.
- 5. What is project information system? Explain.
- 6. Discuss about ISO 9000 series.
- 7. Discuss QFD with its limitations.
- 8. Explain the steps in stratified random sample.
- 9. Discuss about sample size determination.
- 10. What is population proportion? Explain.

(10 × 4 = 40 marks)

Part B

Answer all questions.  
Each question carries 12 marks.

- 11. Explain 5 of project management.
  - 12. Discuss the tools and techniques of capital budgeting.
  - 13. Discuss the difference between IRR and ARR.
  - 14. Find the NPV and BCR of a project having following cash flow details:
- | Period    | 0   | 1  | 2   | 3   | 4   | 5   | 6   | 7   |
|-----------|-----|----|-----|-----|-----|-----|-----|-----|
| Cash Flow | (-) | 40 | 7.8 | 7.2 | 7.1 | 7.3 | 7.2 | 7.1 |
- (in Rs. Lakhs)

Turn over