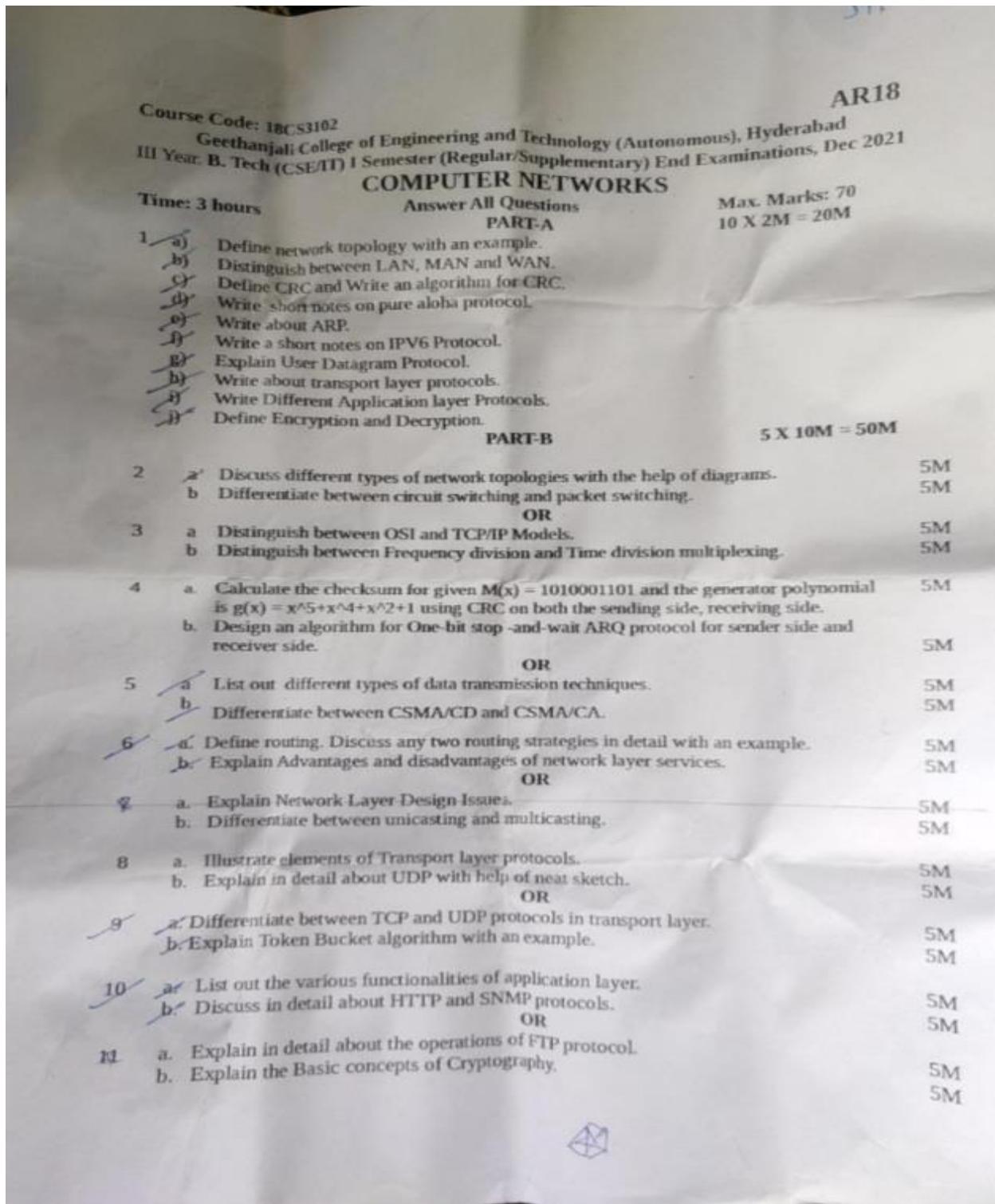


16. PREVIOUS QUESTION PAPER



Course Code: 18CS3102

AR18

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad
III B. Tech (CSE) I Semester (Regular/Supplementary) End Examinations, FEB 2021

COMPUTER NETWORKS

Time: 2.5 hours

Answer All Questions

5 X 14M = 70M

1 What is the need for layered architecture? Explain in detail about OSI model.

OR

2 Discuss the various types of multiplexing.

3 Explain the algorithm for CRC method of error checking and sliding window protocols.

OR

4 Elaborate on the design issues of data link layer. Also explain how BLOCK CODING is useful in error detection and error correction.

5 Describe in detail about TCP segment header and connection Establishment?

OR

6 Explain "Distance Vector Routing" algorithm? Illustrate the count-to-infinity problem.

7 Discuss the methods for improving the Quality of Service.

OR

8 Explain the TCP transmission policy.

9 What is firewall? Explain various generations of firewalls. Discuss the uses of FIREWALLS.

OR

10 Discuss the architecture of WWW. Explain in detail about DNS.

6/1/19 - p.v

Course Code: 16CS4102

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad
IV B.Tech (CSE) I Semester (Regular) End Examinations, Nov/Dec 2019

AR16

Computer Networks
Answer All Questions

PART-A

Time: 3 hours

Max. Marks: 70
10 X 2M = 20M

1. a. Categorize the four basic topologies in terms of line configuration?
- b. How do guided media differ from unguided media?
- c. How does a single-bit error differ from a burst error?
- d. One hundred stations on a pure ALOHA network share a 1-Mbps channel. If frames are 1000 bits long, find the throughput if each station is sending 10 frames per second.
- e. What are the functions of a RIP message?
- f. What is the value of HLEN in binary if the size of the option field of an IPv4 datagram is 20 bytes?
- g. What is the difference between open-loop congestion control and closed-loop congestion control?
- h. Which protocol preserves the message boundaries in a message? Why?
- i. What kinds of file types can FTP transfer?
- j. Define account management and its purpose in SNMP?

PART-B

5 X 10M = 50M

2. a. Name the four basic network topologies, and cite an advantage of each type.
- b. Explain the key elements of a protocol?

OR

3. a. What is the difference between omnidirectional waves and unidirectional waves?
 - b. Explain three multiplexing techniques used to combine analog signals?
4. a. Given the dataword 1010011110 and the divisor 10111,
 - i. Show the generation of the codeword at the sender site (using binary division).
 - ii. Show the checking of the codeword at the receiver site (assume no error).
 - b. Explain the design of Stop-and-Wait Protocol

OR

5. a. Explain any two random access protocols .
- b. Explain the procedure of CSMA/CD

6. a. Explain the operation of ARP?
- b. Explain the different types of errors handled by ICMP.

OR

7. a. An IPv4 fragment has arrived with an offset value of 100. How many bytes of data were originally sent by the source before the data in this fragment?
- b. Explain briefly different sets of actions required to build routing tables in link state routing.

8. a. Illustrate how bidirectional data transfer can take place in TCP?
- b. Explain how TCP handles flow control.

OR

9. a. Explain TCP's general policy for handling congestion in a network?
- b. Explain the techniques that can be used to improve the QoS?

10. a. Explain the architecture of E-Mail.
- b. Explain the architecture of WWW.

11. a. Explain the roles of SNMP and SMI.
- b. When user clicks a hyperlink, what are the steps that occur between the user's click and the page being displayed?

OR

AG AG AG AG AG AG AG A

R13

Code No: 115DT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, May - 2018

COMPUTER NETWORKS

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

AG AG AG AG AG AG AG A

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

AG AG AG AG AG AG AG A
PART-A (25 Marks)

- 1.a) What is Internet. Differentiate it from intranet. [2]
b) Discuss the design issues of data link layer. [3]
c) When do we use hubs? [2]
d) What are main functionalities of routers? What is purpose of using multiprotocol routers? [3]
e) What is optimality principle? [2]
f) Discuss congestion control algorithms on brief. [3]
g) What is CIDR addressing [2]
h) Discuss the principles of internetworking. [3]
i) What is silly window syndrome? [2]
j) Draw TCP and UDP headers. [3]

AG AG AG AG AG AG AG A
PART-B (50 Marks)

2. Compare and contrast OSI and TCP/IP reference models. Critique on each model. [10]
OR

- 3.a) Explain sliding window protocol.
b) Describe go back N protocol.
4. Define collision. Explain collision free protocols. Mention advantage of each protocol. [5+5]
[10]

OR

5. Explain the following:
a) Bridges
b) Gateways
c) Repeaters.

AG AG AG AG AG AG AG A
6.a) The major problem with distance vector routing algorithm is 'count to infinity'. How exchange complete path from router to destination instead of delay, helps in solving count to infinity problem.

- b) Explain the design issues of network layer. [5+5]

AG AG AG AG AG AG AG A
7. Discuss the hierarchical routing with examples. [10]

AG AG AG AG AG AG AG A

8. Given a network address of 192.168.100.0 and a subnet mask of 255.255.255.192.

a) How many subnets are created?

b) How many hosts are there per subnet?

AG AG AG AG AG AG AG A [5+5]

9.a) Discuss ICMP Messages.

b) Explain Tunneling in Internet layer.

OR

[5+5]

10. Illustrate the TCP connections, TCP releases with state transition diagram.

OR

[10]

11. Describe DNS with diagrams and real-time examples.

[10]

AG AG AG AG AG AG AG A

---ooOoo---

AG AG AG AG AG AG AG A

R15

Code No: 125DT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2017

COMPUTER NETWORKS

(Common to CSE, IT)

AG AG AG AG AG AG AG AG A

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

AG AG AG AG AG AG AG AG A

PART-A

(25 Marks)

- 1.a) Write the advantages of optical fiber over twisted-pair and coaxial cables. [2]
- b) What are the advantages of having layered architecture? [3]
- c) Briefly explain the difference between switch and router. [2]
- d) Sketch the Manchester encoding for the bit stream: 0001110101. [3]
- e) Give the advantages of hierarchical routing. [2]
- f) Differences between CO and CL. [3]
- g) Explain DHCP. [2]
- h) What are the functions of ICMP? [3]
- i) What is the architecture of WWW? [2]
- j) Explain the differences between POP3 and IMAP. [3]

AG AG AG AG AG AG AG AG A

PART-B

(50 Marks)

- 2.a) Compare and contrast the OSI and TCP/IP reference models.
- b) What are the different types of error detection methods? Explain the CRC error detection technique using generator polynomial x^4+x^3+1 and data 11100011. [5+5]

OR

- 3.a) Discuss about the various transmission media available at the physical layer. [5+5]
- b) Explain about GBN Sliding Window Protocol.

AG AG AG AG AG AG AG AG A

- 4.a) Explain the differences between the switching methods. [5+5]
- b) Elucidate the CSMA schemes.

OR

- 5.a) Illustrate the frame structure of IEEE 802.3. [5+5]
- b) Give a detail note on the ALOHA protocols.

AG AG AG AG AG AG AG AG A

- 6.a) Elucidate Distance Vector Routing Algorithm with example. [5+5]
- b) Describe the problem and solutions associated with distance vector routing.

OR

- 7.a) Explain the general principles of congestion control. [5+5]
- b) Describe congestion control in datagram subnets.

AG AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

- 8.a) Elucidate the special IP addresses used in internet.
b) Discuss the significance and the operation of NAT.

[5+5]

- 9.a) Illustrate the connection establishment and release in transport layer.
b) How crash recovery is managed at the transport layer?

[5+5]

- 10.a) Explain Real-time transport protocol.
b) When user clicks a hyperlink, what are the steps that occur between the user's click and the page being displayed?

[5+5]

11. Write short notes on the following:
(a) MIME (b) Audio compression (c) DNS (d) Voice over IP.

[10]

AG AG AG AG AG AG AG A

R13

Code No: 115DT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2016

COMPUTER NETWORKS

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

- 1.a) What is Frame Relay? [2]
- b) Write about communication satellites. [3]
- c) Define time domain reflectometry. [2]
- d) Difference between Pure ALOHA and slotted ALOHA. [3]
- e) Write about Jitter control. [2]
- f) Write down the design issue of network layers. [3]
- g) Write about Tunneling. [2]
- h) What are the concepts of extension header in IPv6? [3]
- i) Compare RPC and RTP. [2]
- j) How does persistence timer is useful in TCP ? [3]

PART - B

(50 Marks)

2. Explain and demonstrate Selective repeat sliding window Protocol with an example. [10]

OR

- 3.a) Write short notes on Wireless Transmission. [3]
- b) Describe in detail about Lightwave transmission. [7]

4. What is the purpose of CSMA CD? And Explain it. [10]

OR

5. Explain about the following:

- a) Spanning Tree Bridge
- b) Remote bridge.

[5+5]

6. Write briefly about Congestion control in datagram subnets. [10]

OR

7. Write an example, demonstrate how to make routing table using distance vector routing. And list down the limitation. [10]

8. How would you describe the operation of Address resolution protocol? [10]

OR

9. Explain in detail about crash recovery. [10]

10. How would you summarize the concepts of E-mail, its architecture and services? [10]

OR

11. Describe in detail about TCP segment header and connection Establishment. [10]

---ooOoo---

R07

Code No: 07A6EC08

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B. Tech III Year II Semester Examinations, June - 2014

COMPUTER NETWORKS

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 80

Answer any five questions
All questions carry equal marks

- 1.a) Compare and contrast among OSI and TCP / IP reference Models.
b) Compare WAN, LAN and MAN topologies.
- 2.a) Discuss circuit switching and packet switching methods. Also discuss their merits and demerits.
b) Differentiate between the following:
i) bit rate and baud rate
ii) single mode fiber and multi mode fiber.
- 3.a) Explain various methods of framing used in Data Link Layer.
b) Discuss the Performance of sliding window protocol.
- 4.a) How does the failure of stations is taken care of in token bus LAN?
b) Compare the frame structures for 10BaseT, 100BaseT and Gigabit Ethernet. How do they differ?
- 5.a) What is Count to Infinity Problem? How can it be solved using Split horizon algorithm? What are its limitations?
b) Compare and contrast the differences between broadcast routing and multicast routing.
- 6.a) What are general Principles of Congestion?
b) Explain Congestion Prevention Policies in detail.
- 7.a) List out the services of Transport layer.
b) Compare TCP and UDP Protocols.
c) Give the frame formats of AAL Layer Protocols.
8. Explain how privacy is achieved in e-mail system.

16.University Previous Year Question Papers

Course Code: 16CS3201 Geethanjali College of Engineering and Technology (Autonomous), Hyderabad III B.Tech (CSE) II Semester (Regular) End Examinations, Apr/May 2019		AR16
Software Engineering		
Time: 3 hours		Max. Marks: 70
Answer All Questions		
PART-A		$10 \times 2M = 20M$
1	a. What are the advantages of waterfall model? b. Mention need for Cost Estimation for a software development process? c. Explain the role of analyst. d. Sketch the use case diagram of safe home system. e. List the attributes of software design. f. Mention Essential characteristics of software architecture. g. List User document types. h. What are the User interface design principles? i. Compare Reverse and Re-engineering approach. j. Distinguish between White and Black box testing.	
PART-B		$5 \times 10M = 50M$
2	a. Explain spiral model with its advantages. b. Explain unified process model.	5M
OR		
3	Mention and explain various software engineering process paradigms.	10M
4	a. Sketch the activity diagram for requirement eliciting. b. Name the four major components of DFD and how they are depicted?	6M 4M
OR		
5	a. What is a software prototype? Which model is most suitable for development of technically challenging software products. b. Name six types of software requirement specifications as per IEEE standard. What are the important activities of the requirements engineering process?	5M 5M
6	a. Explain features and application of architectural and procedural design. b. Explain how modular design is done.	5M 5M
OR		
7	a. Describe layered and reuse based design paradigm in real time scenario. b. Distinguish between Cohesion and coupling	5M 5M
8	a. Discuss human factors responsible for proper Human Interface design. b. Describe how coding efficiency can be useful in efficient Interface design.	5M 5M
OR		
9	a. Describe the golden rules of user interface design. b. Describe phases of software configuration management and its relevance to the client deployment site.	5M 5M
10	a. Explain the basis path testing with an example. b. Explain CASE tools with suitable examples.	5M 5M
OR		
11	a. Describe validation and system testing and mention its relevance. b. Explain how software reverse and re-engineering is viewed in the purview of software maintenance	5M 5M

R13

Code No: 115EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, March - 2017

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- a) What are the merits of incremental model? [2]
- b) What are the fundamental activities of a software process? [3]
- c) Differentiate ERD and DRD. [2]
- d) What are non functional requirements? [3]
- e) Define design process. [2]
- f) List the principles of a software design. [3]
- g) Distinguish between verification and validation. [2]
- h) Write about drivers and stubs. [3]
- i) Give a note on the various estimation techniques. [2]
- j) Define maintenance. What are the types of software maintenance? [3]

PART - B

(50 Marks)

- 1.a) Define the term Software. Describe its various characteristics.
- 1.b) Elaborate on the changing nature of software in detail. [5+5]
OR
- 3.a) Explain software development life cycle. Discuss various activities during SDLC.
- 3.b) What are various myths about software? [5+5]
- 4. Give an overview of various system models. [10]
OR
- 5.a) Discuss about principal requirements engineering activities and their relationships.
- 5.b) Explain how a software requirements document is structured. [5+5]
- 6.a) Distinguish between coupling and cohesion? How do they effect software design?
- 6.b) For a Case study of your choice show the architectural and component design. [5+5]
OR
- 7. List and explain different kinds of architecture styles and patterns. [10]

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- 8. What is black box testing? What is boundary value Analysis? Explain the technique specifying rules and its usage with the help of an example. [10]
OR
- 9.a) Define unit testing. Explain about unit testing considerations and procedures.
- 9.b) What is equivalence class partitioning? List rules used to define valid and invalid equivalence classes. Explain the technique using examples. [5+5]
- 10.a) What is the purpose of Delphi method? State advantages and disadvantages of the method.
- 10.b) Explain the COCOMO model for estimation. [5+5]
OR
- 11. What is software configuration management? Explain various aspects of the configuration management. [10]

Code No: 115EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year I Semester Examinations, November/December - 2016****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- | | | |
|------|---|-----|
| 1.a) | What is legacy software? Explain. | [2] |
| b) | What are the advantages of unified process? | [3] |
| c) | Write the purpose of context model. | [2] |
| d) | What is the significance of feasibility study? | [3] |
| e) | What is the use of interface analysis? Explain. | [2] |
| f) | What do you mean by software design quality? Explain. | [3] |
| g) | Differentiate between verification and validation. | [2] |
| h) | What is regression testing? Give example. | [3] |
| i) | Define software reliability. | [2] |
| j) | What is the importance of software reviews? | [3] |

PART - B**(50 Marks)**

- | | | |
|-----------|--|-------|
| 2.a) | Discuss about the changing nature of software | |
| b) | Explain spiral model with its merits and demerits. | [5+5] |
| OR | | |
| 3.a) | Discuss in brief about different software myths and their consequences. | |
| b) | Explain CMMI model with a neat sketch. | [5+5] |
| 4.a) | Differentiate between functional and non-functional requirements. | |
| b) | List and explain the object models in brief. | [5+5] |
| OR | | |
| 5.a) | What are the activities of requirements elicitation and analysis? Explain. | |
| b) | Discuss about different structured methods used in software development. | [5+5] |
| 6.a) | Explain the process of mapping dataflow into software architecture. | |
| b) | List the golden rules of user interface design. | [5+5] |
| OR | | |
| 7.a) | Discuss about pattern based software design in detail. | |
| b) | Define and explain about different types of cohesion. | [5+5] |

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- | | | |
|-----------|---|-------|
| 8.a) | Describe the framework for software product metrics. | |
| b) | Differentiate between Black box and White box testing. | [5+5] |
| OR | | |
| 9.a) | What are the metrics used for software maintenance? Discuss. | |
| b) | Briefly discuss about Integration testing strategies. | [5+5] |
| 10.a) | Differentiate between Reactive Vs Proactive risk strategies. | |
| b) | What is the significance formal technical review? Explain. | [5+5] |
| OR | | |
| 11.a) | Write a detailed note on ISO 9000 quality standards. | |
| b) | What types of risks occur during software development? Discuss. | [5+5] |

R13

Code No: 115EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year I Semester Examinations, February/March - 2016

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

Part- A

(25 Marks)

- | | | |
|------|---|-----|
| 1.a) | Distinguish between software process and project. | [2] |
| b) | Discuss about changing nature of software. | [3] |
| c) | What is meant by system requirements? | [2] |
| d) | Explain about context models. | [3] |
| e) | Write brief notes on data design. | [2] |
| f) | Write about interface design evaluation. | [3] |
| g) | What is meant by debugging? | [2] |
| h) | What is meant by software measurement? | [3] |
| i) | What is meant by software reliability? | [2] |
| j) | Discuss the reactive risk strategy. | [3] |

Part- B

(50 Marks)

- | | | |
|-----|---|------|
| 2. | State and explain various software myths. | [10] |
| | OR | |
| 3. | Explain about specialized process models. | [10] |
| 4. | Explain clearly about software requirements document. | [10] |
| | OR | |
| 5. | State and explain various aspects in requirements validation process. | [10] |
| 6. | Discuss about mapping dataflow into software architecture. | [10] |
| | OR | |
| 7. | Explain about conducting component level design. | [10] |
| 8. | Discuss about metrics for design model and source code. | [10] |
| | OR | |
| 9. | Explain clearly about metrics for software quality. | [10] |
| 10. | Explain about formal technical reviews. | [10] |
| | OR | |
| 11. | Explain about risk projection and risk management. | [10] |

R13

Code No: 115EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November - 2015

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- 1.a) What is an agile process? Explain. [2]
- b) What is the difference between a UP Phase and a UP Workflow? [3]
- c) What is the intent of requirements validation? [2]
- d) What are the characteristics of good SRS document? [3]
- e) Differentiate between coupling and cohesion. [2]
- f) How do we assess the quality of software design? [3]
- g) What is Cyclomatic complexity? What is its purpose? [2]
- h) What are the metrics used for software maintenance? [3]
- i) What is software reliability? Define. [2]
- j) Can a program be correct and still not exhibit good quality? Explain. [3]

PART - B

(50 Marks)

- 2.a) What is the purpose of process assessment? Why has SPICE been developed as a standard process assessment? [5+5]
- b) Explain Spiral model with a neat sketch. What can you say about the software that is being developed or maintained as you move outward along the spiral process flow?

OR

- 3.a) What are the five generic process framework activities? Explain.
- b) Explain different levels of Capability Maturity model and list the KPA's of each level. [5+5]

- 4.a) What is the goal of requirements analysis phase? Give reasons why the requirements analysis phase is a difficult one.
- b) Briefly explain the models used for structured analysis. [5+5]

OR

- 5.a) Differentiate between functional and non-functional requirements with suitable examples.
- b) "Data Modeling can be viewed as a subset of OOA." Comment on this statement and justify your comments. [5+5]

R09

Code No: 55029

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B. Tech III Year I Semester Examinations, December - 2014

SOFTWARE ENGINEERING

(Common to CSE & IT)

Time: 3 hours

Max. Marks: 75

Answer any five questions

All questions carry equal marks

- 1.a) Discuss the need for a process framework. Explain CMMI.
b) Distinguish between personal and team process models.
2. Explain the incremental process models, how these are different from evolutionary process models?
- 3.a) What is meant by method-based analysis? Explain the VORD process model.
b) State and explain various requirements validation techniques. And also discuss requirements reviews.
- 4.a) State and explain various activities in software design. And also discuss the importance of design phase.
b) What is meant by data design? Explain with an example.
5. Discuss the following:
a) Designing conventional components.
b) Designing class-based components.
6. What is meant by testing? Discuss about software testing objectives and testing phases.
- 7.a) What are the categories of software risks? Explain them.
b) With a neat diagram explain the risk management paradigm.
8. Write short notes on the following:
a) Software reliability.
b) ISO 9000 quality standards.
c) Object models.

—ooOoo—

Code No: 09A50505

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2012

SOFTWARE ENGINEERING

(Common to CSE, IT, ECM)

Time: 3 hours

Max. Marks: 75

95

95

Answer any Five Questions

95

95

95

All Questions carry equal marks

95

95

1.a)

Define the term "software", and state and explain various areas of software applications.

b)

Compare the personal and team process models. [7+8]

95 2.a)

95 95 95 95

Compare the linear sequential model with the spiral model.

95 b)

Discuss the classification of non-functional requirements. [7+8]

95 3.a)

Discuss the significance of requirements validation and also discuss various requirements validation techniques.

95 3.b)

What is meant by context model? With a neat diagram explain the context model of ATM system. [7+8]

95 4.a)

State and explain various software design concepts. Discuss why software architecture plays important role during development and discuss various architectural terminology. [7+8]

95 b)

95 95 95

5. 5.a)

Define the term "software component" and discuss its characteristics.

5. b)

State and explain various interface design activities. [7+8]

6. 95

What are the testing strategies for conventional software? Explain them in detail. [15]

95 7.a)

95 95 95 95 95

Discuss the need for software measurement. Discuss various measurements that can be done on a developed software.

95 b)

Explain about statistical software quality assurance. [7+8]

5. 95

Write short notes on the following:

a) Software reviews

b) ISO 9000 quality standards

c) RMMM plan.

[15]

95

95 95 95 95 95

--ooOoo--

95

95 95 95 95 95

95

95 95 95 95 95

95

95 95 95 95 95

R13

Code No: 118AK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, September - 2020

ARTIFICIAL INTELLIGENCE

(Information Technology)

Time: 2 hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) 8-queens problem seeks to place 8-queens in an 8×8 chessboard such that no two queens attack each other. Formulate this problem as a constrained satisfaction problem. [10+5]
- 1.b) Explain about Hermistic search techniques.
2. Develop a concise semantic net for the following facts:-
Pigeons lay eggs. Parrots can fly. Pigeon is a bird. Owl is a bird. Parrots lay eggs. Owl sleep during daytime. Pigeons and parrots sleep during night. Owls lay eggs. Pigeons and owls can fly. Parrots are green. Parrots are birds. [15]
- 3.a) Differentiate between traditional systems and expert system.
b) With a neat diagram explain the architecture of expert system and mention its features? [10+5]
- 4.a) Give an example to explain various types of learning in problem solving?
b) Write short note on Recurrent Neural Networks. [10+5]
- 5.a) With the help of an example explain the grammars and parsers used in natural language processing?
b) What is semantic web? Explain the process involved in the construction of semantic web? [8+7]
6. What is Alpha beta pruning? What is the benefit of using alpha-beta pruning on minimax game tree? Are there any factors on which this benefit depends? [15]
- 7.a) Discuss with examples the scope and limitations of knowledge representation using Propositional logic and First Order Predicate logic.
b) Describe the basic concepts of logic programming? [8+7]
- 8.a) Define certainty factor. What are the components of certainty factor?
b) What are the applications of expert system? [10+5]