

**MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)**

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)  
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajiri (Dist), Hyderabad

**III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, MAY-2018**Subject: Software Engineering

Branch: CSE

Time: 3 hours

Max. Marks: 75

**PART – A****I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. What are drawbacks of water fall model?
2. What is a Domain requirement in software requirements engineering?
3. What is modularity in software design?
4. What is the metric used to measure maintenance of a product?
5. What is meant by risk mitigation in risk management approach?

**II. Answer ALL questions of the following****10x2Mark=20 Marks**

1. What are advantages of a software product in comparison with hardware product?
2. What are different levels of CMMI model?
3. Write the template of software requirements specification (SRS) document.
4. What are basic guidelines of collaborative requirements gathering activity of requirements engineering?
5. What are data design principles?
6. What are various architectural styles present in design engineering?
7. What is validation testing?
8. Testing of unit module will be performed by developer or by an individual team of testers. Justify your answer.
9. What is software reliability?
10. What are different stages of six-sigma approach followed to eliminate defects?

**PART-B****Answer ALL questions of the following****5x10 Marks= 50Marks****Q1.** (a) Explain working of spiral model with a neat diagram.

(b) Explain briefly about software engineering layered approach.

**(OR)****Q2.**(a) What are evolutionary process models? Explain.

(b) Explain briefly about working of unified process model.

**Q3.** Describe briefly about System Models and Data models.**(OR)****Q4.** Explain about Software requirements engineering process with a block diagram

**Q5.** Explain the following design concepts

- (a) Coupling
- (b) Cohesion
- (c) Design classes
- (d) Refinement
- (e) Abstraction.

**(OR)**

**Q6.** What are Golden rules followed to perform user interface design?

**Q7. (a)** What is meant by software quality? Explain about McCall's software quality factors.

(b) Differentiate between black box and white box testing techniques.

**(OR)**

**Q8.** Write short notes on metrics for testing and maintenance.

**Q9. (a)** Explain about reactive and proactive risks.

(b) Explain briefly about RMMM plan.

**(OR)**

**Q10.** What is a review? Explain about Formal Technical Review (FTR) procedure in detail.

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**III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, MAY-2018**Subject: Micro Processor and Micro Controller

Branch: CSE

Time: 3 hours

Max. Marks: 75

**PART – A****I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. What is a Microprocessor?
2. Give the format of flag register in 8086.
3. What is the need for memory interfacing?
4. What is a Microcontroller?
5. List out various flags in 8051

**II. Answer ALL questions of the following****10x2Mark=20 Marks**

1. Write the special functions carried by the general purpose registers of 8086.
2. Write the flags of 8086.
3. Define opcode and operand.
4. What is addressing? What are the various addressing modes available in 8086?
5. List the major components of 8251A programmable communication interface.
6. What is USART? What are the functions performed by INTEL 8251A?
7. Give the alternate functions for the port pins of port3?
8. List the features of 8051 microcontroller?
9. Write the register format of SCON register.
10. Write down the different operating modes for serial communication of 8051.

**PART-B****Answer ALL questions of the following****5x10 Marks= 50Marks**

- Q1.a)** With a neat architectural diagram, explain the functioning of an 8086.  
b) What is memory segmentation? Explain how segmentation provides effective task switching mechanism.

**(OR)**

- Q2. a)** Write the addressing modes of 8086 microprocessor with an example.  
b) Explain the following 8086 instructions with examples  
(i) MUL (ii) IMUL (iii) DIV (iv) IDIV

- Q3. a)** Write an ALP to find the multiplication of two 16-bit Hex numbers?  
b) Explain the branch and call instructions of 8086 with examples.

**(OR)**

- Q4. a)** Write an 8086 program to perform the addition of two matrices.  
b) What are the loop instructions of 8086? Explain the use of DF flag in the execution of string instructions.

**Q5. a)** Draw and explain 8251 USART architecture.

b) Draw a schematic to interface keyboard and display with 8086 using 8255 and explain.

**(OR)**

**Q6. a)** With neat diagrams, explain about I/O modes of 8255 (PPI).

b) Briefly explain about control words of 8259 (PIC).

**Q7. a)** With neat diagrams, explain about timers and counters in 8051 microcontroller.

b) Discuss briefly about RAM of 8051.

**(OR)**

**Q8. a)** Explain programming of external hardware interrupts in detail of 8051.

b) Explain the architecture of 8051 microcontroller.

**Q9. a)** With examples, describe the instruction set of 8051.

b) Briefly explain about the interrupt priorities in 8051.

**(OR)**

**Q10 a)** Write 8051 program to generate 2 kHz square waves on pin P1.0 of port 1 using Timer interrupt.

b) Write a 8051 assembly language program to find the largest number from an array of 10 numbers. The array is located in the data memory and the start address of Array is 20H.

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad**III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, MAY-2018**Subject: Computer Communication (MR13) / <sup>DC</sup>Computer Networks(MR14)

Branch: CSE

Time: 3 hours

Max. Marks: 75

**PART – A****I. Answer ALL questions of the following**

5x1Mark=5 Marks

1. What is frame relay?
2. List the four methods to construct the frame.
3. What is the use of Switch and define Aggregation Points?
4. Expand the term SCTP.
5. What is the need of cryptography in the computer networks?

**II. Answer ALL questions of the following**

10x2Mark=20 Marks

1. Describe briefly about MAN and WAN.
2. What are the different transmission media?
3. Write about IEEE802.3 briefly.
4. Write about IEEE 802.11.
5. What is masking. What its use.
6. Where do we get the Congestion?
7. What are the main causes for data traffic?
8. What is addressing?
9. What are the different types of services ATM network offers?
10. Draw HTTP request and response header.

**PART-B****Answer ALL questions of the following**

5x10 Marks= 50Marks

1. Discuss about Concatenated Virtual Circuits.

**OR**

2. Write short notes on interface, service and protocol.
3. Explain principle of CSMA/CD control access mechanism with a neat flow chart.

**OR**

4. a) Explain the design issues of data link layer.  
b) Explain the sliding window protocol with a neat sketch.
5. a) With an example explain subnet masking.  
b) Write short notes on link state routing.

**OR**

6. a) What is tunneling? When it is used? Is it used in wireless LAN's?  
b) Discuss about Internet work Routing.
7. a) Explain classful IP addressing.  
b) Explain the QoS in switched networks?

**[3+2+1]****[4]****OR**

8. What are the flow characteristics and classes in Quality of Service?
9. Explain the complete working model of electronic mail and the protocols involved in sending and receiving of a mail.

**OR**

10. Write about different types of web documents with example.



Code No.: 30516/40517

MR13 / MR14

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**III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, MAY-2018**

Subject: Compiler Design

Branch: CSE

Time: 3 hours

Max. Marks: 75

**PART – A**

**I. Answer ALL questions of the following**

**5x1Mark=5 Marks**

1. What is parsing?
2. Write the stands for YACC
3. What is type system?
4. What is an optimization?
5. Write object code forms.

**II. Answer ALL questions of the following**

**10x2Mark=20 Marks**

1. Explain the lexical analyzer.
2. Write the Following rules.
3. What is left most derivation and rightmost derivation?
4. Write the operator precedence relations, with example.
5. Construct abstract syntax tree.
6. Explain the heap allocation strategies.
7. Write the loop optimization techniques.
8. Eliminate common sub expressions with one example.
9. Write the register assignment.
10. Write different object code forms.

**PART-B**

**Answer ALL questions of the following**

**5x10 Marks= 50Marks**

- Q1. What is the LL(1) Grammar and construct LL (1) grammar for  
S->iEtS|iEtSeS|a  
E->b

(OR)

- Q2. Differences between compiler and interpreter and construct first and follow rules for the following  
grammar S->(L)a  
L->L,S|S

Q3. Construct LALR parsing table for the following grammar

$S \rightarrow L = R \mid R$

$L \rightarrow *R \mid id$

$R \rightarrow L$

(OR)

Q4. Define LR(0) item, explain the model of LR parser and handling ambiguous grammar with an example.

Q5. Construct quadruples, triples and indirect triples for the following

$a = b * -c + b * -c$

(OR)

Q6. Explain about non block structure storage allocation strategies.

Q7. Explain about the principal sources of code optimization.

(OR)

Q8. What is flow graph and explain about the global data flow analysis.

Q9. What is a DAG and applications of DAG, give DAG for The following

$a + b * (a + b) + c + d$

(OR)

Q10. How registers are allocated and assigned in order to generate good code?