

Hall Ticket No:

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QP Code: 14IMCA22T06/14DMCA105

# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

Direct 2<sup>nd</sup> Year MCA I Year II Semester (R14) Regular & Supplementary

End Semester Examinations – May/June 2016

(Regulations: R14)

## SOFTWARE ENGINEERING

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

- Q.1(A) i. Explain various characteristics of software. 12M  
ii. What are the attributes of web applications?  
**OR**
- Q.1(B) i. Explain the advantages and disadvantages of waterfall model. 12M  
ii. Discuss various agility principles.
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- Q.2(A) i. What are the different techniques for eliciting requirements? 12M  
ii. Write a note on ER diagram.  
**OR**
- Q.2(B) i. Write a note on COCOMO model. 12M  
ii. What are the software quality guidelines during design?
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- Q.3(A) i. What are the golden rules for interface design? 12M  
ii. What are the various steps for interface design?  
**OR**
- Q.3(B) i. What are the characteristics of a good design pattern? 12M  
ii. What are the various tasks in pattern based design?
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- Q.4(A) i. Write a note on verification and validation. 12M  
ii. Explain the procedure of unit testing.  
**OR**
- Q.4(B) i. What are the characteristics of testable software? 12M  
ii. Write a note on white box testing.
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- Q.5(A) i. Describe various software risks. 12M  
ii. Explain the process of risk identification.  
**OR**
- Q.5(B) i. What are the different activities in business reengineering model? 12M  
ii. Write a note on reverse engineering.

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Hall Ticket No:

QP Code: 14DMCA106/14IMCA22T07

## MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

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### WEB PROGRAMMING THROUGH PHP

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) What are the characteristics of PHP variables? Describe the various operators available in PHP. 12M

OR

Q.1(B) Explain the various string manipulation functions in PHP. 12M

Q.2(A) Define function. Describe how functions are used in PHP with an example. 12M

OR

Q.2(B) What is scope in PHP? Write short note on Global, Local and Static variables. 12M

Q.3(A) Define inheritance. How do you implement inheritance in PHP? 12M

OR

Q.3(B) What are the advanced Object-Oriented features in PHP? Explain with example. 12M

Q.4(A) Describe web database architecture with the help of a neat diagram. 12M

OR

Q.4(B) Explain the role of DDL and DML commands in MySQL. 12M

Q.5(A) What is XML? How does it work? Explain XML parsing. 12M

OR

Q.5(B) Describe the various MySQL functions used in PHP with example. 12M

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Hall Ticket No:

QP Code: 14DMCA107/14IMCA22T08

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End Semester Examinations – May/June 2016

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**OPERATING SYSTEMS**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.

In Q.no 1 to 5 answer either Part-A or B only

- Q.1(A) i. What is an Operating System and Explain the Computer System Structure in detail? 6M  
ii. Write about distributed systems and Real time systems? 6M  
OR
- Q.1(B) Explain Operating System design and implementation in detail. 12M
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- Q.2(A) What is process scheduling? Explain any 3 process scheduling algorithms. 12M  
OR
- Q.2(B) What is Deadlock? Explain in detail. 12M
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- Q.3(A) What is demand paging? Explain. 12M  
OR
- Q.3(B) Explain the structure of LINUX? Write a program to demonstrate Grep Function. 12M
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- Q.4(A) Explain file system in detail. 12M  
OR
- Q.4(B) What is a free space? Explain the techniques of free space. 12M
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- Q.5(A) What is an access matrix? Explain the implementation process. 12M  
OR
- Q.5(B) What is security? Explain any 5 security problems. 12M

\*\*\* END\*\*\*

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**NETWORK SECURITY ESSENTIALS APPLICATIONS AND STANDARDS**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Explain the OSI reference model in detail with a diagram and illustrate the layers. 12M

**OR**

Q.1(B) i) Write short notes on: Worms, Viruses and Trojan horses. 6M

ii) Discuss the various security levels that are administered in networking. 6M

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Q.2(A) Discuss in detail the Message Digest Algorithms – MD2, MD4 and MD5. 12M

**OR**

Q.2(B) Explain in detail about Data Encryption Standards. 12M

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Q.3(A) Describe Cryptographic Authentication Protocols with their functionality. 12M

**OR**

Q.3(B) Write a detailed note on the Modes of Operation performed in AES algorithm. 12M

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Q.4(A) Write a short note on public key infrastructure with a neat diagram. 12M

**OR**

Q.4(B) What is meant by Kerberos algorithm? Explain Kerberos V4 and V5 briefly. 12M

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Q.5(A) Write short notes on PEP and PGP protocols in email security. 12M

**OR**

Q.5(B) Write short notes on Post Office Protocol and Pretty Good Privacy. 12M

**\*\*\* END\*\*\***

Hall Ticket No:

QP Code: 14DMCA109/14IMCA22T10

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

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**End Semester Examinations – May/June 2016**

(Regulations: R14)

**COMPUTER ORGANIZATION**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.

In Q.no 1 to 5 answer either Part-A or B only

- Q.1(A) What is flip flop?  
Describe SR flip flop with diagram and truth table. 2M+10  
M
- OR**
- Q.1(B) What are logic gates?  
Explain logic gates with truth tables and their symbols. 2M+10  
M
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- Q.2(A) Describe data path with ALU and registers. 12M
- OR**
- Q.2(B) What are RISC and CISC?  
Describe CISC & RISC architectures. 3M+9M
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- Q.3(A) Describe the bus architecture with neat diagram. 12M
- OR**
- Q.3(B) What is a subroutine? Describe subroutine calls. 2M+10  
M
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- Q.4(A) Describe semiconductor RAM memories. 12M
- OR**
- Q.4(B) What is virtual memory? Describe the functioning of virtual memory. 2M+10  
M
- 
- Q.5(A) What is direct memory access?  
Explain the data transfer by DMA. 2M+10  
M
- OR**
- Q.5(B) Describe PCI and SCSI interfaces. 6M+6M

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