DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

B.TECH (R18)
(III YEAR – I SEM)
(2020-21)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

Recognized under 2(f) and 12 (B) of UGC ACT 1956

(Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade - ISO 9001:2015 Certified)

Maisammaguda, Dhulapally (Post Via. Hakimpet), Secunderabad – 500100, Telangana State, India

ARTIFICIAL INTELLIGENCE

B.TECH III YEAR – I SEM (R18)

QUESTION BANK

UNIT -1:

1) What are the four basic types of agent program in any intelligent system? Explain how did you convert them into learning agents?.

2) Explain the following uninformed search strategies with examples.

(a) Breadth First Search. (b) Uniform Cost Search

(c) Depth First Search (d) Depth Limited Search

3) What is PEAS? Explain different agent types with their PEAS descriptions.

4) Explain in detail the properties of Task Environments.

5) Define a problem and its components. Explain how a problem solving agent works? Explain real-world problems with examples.

7) Explain in detail with examples

(i) Iterative deepening search (ii) Bidirectional search

8) How an algorithm's performance is evaluated? Compare different uninformed search strategies in terms of the four evaluation criteria.

9) What is Greedy Best First Search? Explain with an example the different stages of Greedy Best First search.

10) What is A* search? Explain various stages of A* search with an example.

11) Explain the following local search strategies with examples.

(i) Hill climbing (ii) Genetic Algorithms (iii) Simulated annealing

12) Discuss the characteristics of AI problem. Can Towers of Hanoi problem be considered as AI problem? Justify your answer with suitable

13) Define Artificial Intelligence. Explain the techniques of A.I. Also describe the characteristics of Artificial Intelligence. b) Explain the state space representation of Water – Jug problem.

14) Explain in detail about Uninformed Search and Informed Search Strategies.

15) List and explain the applications of Artificial Intelligence

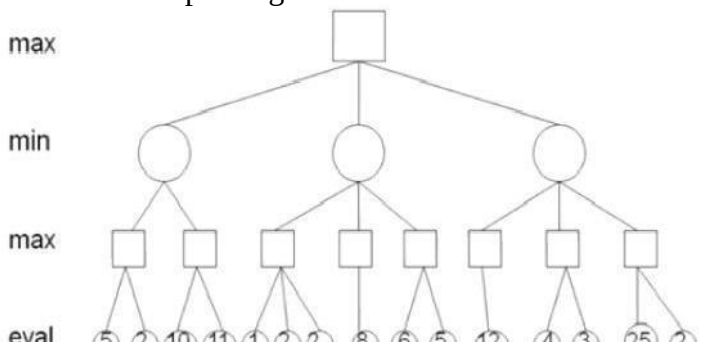
16) Define the following problems. What types of control strategy is used in the following problem. I. The Tower of Hanoi II. Crypto-arithmetic III. The Missionaries and cannibals problems IV. 8-puzzle problem

17)Enumerate Classical “Water jug Problem”. Describe the state space for this problem and also give the solution

UNIT II:

1. Define constraint satisfaction problem (CSP). How CSP is formulated as a search problem? Explain with an example.
2) Explain with examples
   (i) Adversarial search problem (ii) Game
3).Differentiate between forward and backward reasoning

4) Explain with algorithm and example :
   (i). Minimax algorithm (ii). Alpha-Beta Pruning
5) (i) Define the syntactic elements of first-Order logic
   (ii) Illustrate the use of first-order logic to represent knowledge.
6).Give a brief note on Alpha-Beta Pruning.
7) Explain with an example
   (a) forward chaining (b) Backward chaining
8) Give resolution proof for example problem statement :
   (a) “West is a criminal” (b) Curiosity killed the cat
9).Differentiate propositional logic with FOL. List the inference rules along with suitable examples for first order logic
10).Explain how values are propagated in the game tree using MINIMAX and ALPHA-BETA pruning. Show the nodes that will be pruned.



UNIT III:

1,Write down logical representations for the following sentences suitable to use with Generalized Modus Ponens: (a) Horses, cows and pigs are mammals (b) An offspring of a horse is a horse (c) Bluebeard is a horse (d) Offspring and parent are inverse relations (e) Every mammal has a parent. Draw the proof tree generated by an exhaustive back-ward chaining algorithm for the query ∃h Horse(h).

2. Give a detail note on a generic knowledge-based agent. (b) In the wumpus world, agent will have five sensors.

3. Give a detail note on models for first order logic. (b) Discuss inference rules for quantifiers.

4.Prove the following assertion: for every game tree, the utility obtain by MAX using minimax decision against a suboptimal MIN will be never be lower than the utility obtained

playing against an optimal MIN. Can you come up with a game tree in which MAX can do still better using a suboptimal strategy against a suboptimal MIN?

5. What are the limitations of Predicate logic as a tool for Knowledge representation? Illustrate through examples.

UNIT IV:

1. Give an outline of a simple planning agent (b) Give partial-order planning algorithm.

2. Discuss about the language of planning problem briefly. (b) Explain partial order planning in detail.

3. Give a detailed account on planning with state space search

4. Explain Bayes rule and its use

5. Explain uncertainty

6. Explain the use of planning graph in providing better heuristic estimation with suitable example?

7. Explain in details about first-order logic?

UNIT V:

1. Explain instance based learning with an example

2. Explain Dempster-Shafer theory.

3. Explain inductive logic Programming

4. Describe a method for constructing Bayesian networks,

5. Explain inductive logic programming

6. What is a Bayesian networks?How is it used in representing the uncertainity about knowledge. Explain the method of performing exact inference in baeysian networks?

7. Define uncertain knowledge, prior probability and conditional probability .State the Baye's theorem.How it is useful for decision making under uncertainty about knowledge? Explain the method of performing exact inference in Bayesian networks briefly.

8.Disucss in detail about supervised learning?

Explain in details about supervised learning?

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

B.Tech CSE III Year I Semester Examinations

COMPILER DESIGN (A50514)

Time : 3.00 Hours **MODEL PAPER -1** **Max.Marks: 70**

Answer any 5 questions (5x14 = 70 Marks)

Section -1

1. Discuss the phases of a compiler indicating the inputs and outputs of each phase in translating the statement "amount = principle + rate * 36.0 " [14M]

OR

2. Define an LL(1) grammar. Is the following grammar LL(1). G:S → iEtS | iEtSes |a , E → b. Also write the rules for computing FIRST() and FOLLOW(). [14M]

Section -2

3. What is an LALR(1) grammar?. Construct LALR parsing table for the following grammar: S→ CC, C → cC , C → c|d . [14 M]

OR

4. Explain the usage of YACC parser generator in construction of a Parser. [14M]

Section -3

5. What are different intermediate code forms? Discuss different Three Address code types and implementations of Three Address statements. [14 M]

OR

6. With a neat diagram explain the format of the Symbol Table. And discuss the tree structures representation of scope information. [14 M]

Section -4

7. Explain the following code optimization techniques with examples . [5M+4M+5M]

a) Constant propagation b) Strength reduction c) Code Motion

8. a) What is an induction variable? Explain with an example. [7 M]

b) Discuss how induction variables can be detected and eliminated from the given intermediate code [7 M]

```
B2:   i:= i+1
      t1:=4*j
      t2:=a[t1]
      if t2<10 goto B2
```

Section -5

9. Explain various issues in the design of the code generation. [14M]

OR

10. a). Explain the code generation algorithm in detail. [7M]

b). Write short notes on peephole optimization. [7M]

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

B.Tech CSE III Year I Semester Examinations

COMPILER DESIGN (A50514)

Time : 3.00 Hours **MODEL PAPER -2** **Max.Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. List out the functions of a Lexical Analyzer? State the reasons for the Separation of Analyses programs into Lexical, Syntax, and Semantic Analyses. [14 M]

OR

2. Define a Parser. What is the role of grammars in Parser construction? Construct the Predictive parsing table for the grammar G : E → E+T |T , E →T*F |F , F →(E) |id. [14M]

Section -2

3. What is an LR(0) item? Construct an SLR parsing table for the grammar G: S→ L=R |R, L → *R | id, R → L. Is it SLR(1) grammar? [14 M]

OR

4. Construct SLR parsing table for the following grammar: R-> R'|'R|RR|R*|(R)|al b [14 M]

Section -3

5. What do you mean by attributed grammars? Discuss the a translation scheme for Converting an infix expression to its equivalent postfix form. [14 M]

OR

6.a) Define activation records.

b)Explain how it is related with runtime storage allocation. [7 M+7M]

Section -4

7. What is the role of code Optimizer in compiler? Is it a mandatory phase? [14 M]

8. What is DAG and flow graph? Explain their role in compilation process. [14 M]

Section -5

9 a) Explain why next-use information is required for generating object code? [7M+7M]

b) Explain the main issues in code generation.

OR

10. a) Define code generation . [4 M+10M]

b) Generate code for the following C program using any code generation algorithm.

```
main()
{
Int I;
Int a[10];
while(i<=10)
a[i]=0;
}
```

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B.Tech CSE III Year I Semester Examinations

COMPILER DESIGN (A50514)

Time : 3.00 Hours **MODEL PAPER -3** **Max.Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1.a)What is LEX? [4M+10M]

b)Discuss the usage of LEX in Lexical Analyzer generation.

OR

2.a) Write a note on the parse generator '_ YACC. [7M+7M]

b) Write the YACC specification of a simple desk calculator as given:
E->E+T/T T->T*F /F F -> (E) | digit where digit between 0 to 9.

Section -2

3. a) Obtain the directed acycJic graph for the expression : x+x*(y+ z)+(y+z)* w [7M+7M]
.

b) Explain the following with example: i) Quadqaples ii) Triples iii) Indirect triple

OR

4. Compare and contrast SLR with LALR. Define Kernel items and Non-kernel items. [14 M]

Show the following grammar is LALR(1)

S-> Aa | bAc | dc | bda

A-> d

Section -3

5. Generate the three address code for the following code fragment. [14 M]

a = b + 1 x = y + 3 y = a / b a = b + c

OR

6. Write a note on simple type checker and list the different types of type checking [14 M]

Section -4

7. What is the role of code Optimizer in compiler? Is it a mandatory phase? [14 M]

OR

8. a) Construct a DAG for the expression: a+a*(b-c)+(b-c)*d [7M+7M]

b) Explain various machine independent code optimization techniques.

Section -5

9. a) Discuss Global Register Allocation in code generation. [7 M+7M]

b) Generate code for the following C statements: i) x=f(a)+f(a) ii) y=x/5;.

OR

10. Consider the following basic block of 3-address instructions: [14M]

a:=b+c x:=a+b b:=a-d c:=b+c d=a-d y=a-d

Write the next-use information for each line of the basic block.

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B.Tech CSE III Year I Semester Examinations

COMPILER DESIGN (A50514)

Time : 3.00 Hours **MODEL PAPER -4** **Max.Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. What is LEX? Discuss the usage of LEX in Lexical Analyzer generation. [14 M]

OR

2. State the various phases of a compiler and explain them in detail. [14 M]

Section -2

3. Prepare a canonical parsing table for the given grammar: [14 M]

S-> CC

C-> cC / d OR

4. Compare and contrast SLR with LALR. Define Kernel items and Non-kernel items. [14 M]

Show the following grammar is LALR(1)

S-> Aa | bAc | dc | bda

A-> d

Section -3

5. Generate the three address code for the following code fragment. [14 M]

while(a>b)

{

if(c<d)

x=y

+z;

else

x=y

-z;

}

OR

6. Explain the use of symbol table in compilation process. List out the various attributes for implementing the symbol table. [14 M]

Section -4

7. Explain the different storage allocation strategies. [14 M]

OR

8. Explain the role of DAG in optimization with example. [14 M]

Section -5

9. Generate code for the following: a) x=f(a)+f(a)+f(a) ii) x=f(f(a))

b) i) x=++f(a) ii) x=f(a)/g(b,c) [7M+7M]

OR

10. Explain the following terms: i) Register Descriptor ii) Address Descriptor iii) Instruction Costs [14 M]

R 18

Code No: R18A0353

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Regular Examinations
Computer Science and Engineering
ENTERPRISE RESOURCE PLANNING
(ERP)

Roll No										

Model Paper-I

Time: 3 hours **Max. Marks: 70**

Note: Answer FIVE questions, choosing one question from each SECTION and each question carries 14 marks

SECTION-I

1. What is Enterprise Resource Planning? Explain the advantages of ERP.

(OR)

2. Discuss overview and benefits of Enterprise Resource Planning (ERP) in detail.

SECTION-II

3. Discuss in detail about Enterprise Resource Planning (ERP) implementation.

(OR)

4. List out the challenges faced by organization while implementing ERP system.

SECTION-III

5. What is Enterprise Resource Planning (ERP) Module? Explain in detailed.

(OR)

6. How do you describe Manufacturing Module? Explain with one suitable example.

SECTION-IV

7. Discuss the critical success factors in the implementation of ERP systems.

(OR)

8. Briefly explain the success and failure factors in the implementation of ERP systems.

SECTION-V

9. What do you mean by extended Enterprise Resource Planning (ERP) system?

(OR)

10. Write detailed notes on Enterprise Resource Planning (ERP) add-ons.

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(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Regular Examinations
Computer Science and Engineering
ENTERPRISE RESOURCE PLANNING
(ERP)

Roll No										

Model Paper-II

Time: 3 hours **Max. Marks: 70**

Note: Answer FIVE questions, choosing one question from each SECTION and each question carries 14 marks

SECTION-I

1. How do you define technology? Explain few technologies related to ERP.

(OR)

2. Write a brief notes on integrated management information.

SECTION-II

3. Explain the various steps in Enterprise Resource Planning (ERP) implementation Process.

(OR)

4. Discuss about the different Transition strategies for ERP implementation.

SECTION-III

5. Describe HR Module and discuss various sub-systems under HR Module.

(OR)

6. What is Plant Maintenance? Explain the major sub-systems of Plant Maintenance.

SECTION-IV

7. What are the various critical success factors in ERP implementation? Elaborate. How can you manage these factors successfully? Discuss.

(OR)

8. Discuss the impacts of ERP system on the organization. How the implementation of ERP system is going to change the way an organization conducts its business?

SECTION-V

9. Explain the concept and importance of Customer Relationship Management (ERP).

(OR)

10. Discuss about customer satisfaction and its impact on organization.

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III B.Tech I Semester Regular Examinations
Computer Science and Engineering
ENTERPRISE RESOURCE PLANNING
(ERP)

Roll No										

Model Paper-III

Time: 3 hours **Max. Marks: 70**

Note: Answer FIVE questions, choosing one question from each SECTION and each question carries 14 marks

SECTION-I

1. What is Business Process Re-engineering (BPR)? Discuss tool and technologies of BPR.

(OR)

2. What is OLAP? Explain OLAP functionalities in detail.

SECTION-II

3. How to evaluate and select the ERP application for implementation?

(OR)

4. What do you meant by project management? And explain the various steps in process.

SECTION-III

5. Define Material Management Module. Explain the main modules under Material Management.

(OR)

6. How data warehousing is differ from data mining? Explain with example.

SECTION-IV

7. Do you think post- implementation review of newly implemented ERP system is important? Why? When should such a review be conducted?

(OR)

8. Describe in detail various approaches for post- implementation review. Which is the best approach and why?

SECTION-V

9. What do you mean by Business analytics and elaborate its extension?

(OR)

10. Discuss about the future trends of Enterprise Resource Planning (ERP) System.

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III B.Tech I Semester Regular Examinations
Computer Science and Engineering
ENTERPRISE RESOURCE PLANNING
(ERP)

Roll No										

Model Paper-IV

Time: 3 hours **Max. Marks: 70**

Note: Answer FIVE questions, choosing one question from each SECTION and each question carries 14 marks

SECTION-I

1. Define Supply Chain Management (SCM). Explain benefits and components of SCM.

(OR)

2. Discuss the applications of ERP in the current scenario.

SECTION-II

3. Describe the methodologies for Enterprise Resource Planning (ERP) implementation.

(OR)

4. What is product life cycle in Enterprise Resource Planning (ERP)?

SECTION-III

5. Explain Quality Management Module. What kind of tools and techniques are used by this module?

(OR)

6. What do you understand by Sales and Distribution Module?

SECTION-IV

7. Briefly explain cost-benefit review of the newly implemented ERP systems in an organization?

(OR)

8. Discuss a general framework suggesting the maintenance of ERP systems.

SECTION-V

9. What is the system- web enabled services in Enterprise Resource Planning (ERP)?

(OR)

10. How the wireless technologies support ERP to enhance its usage in business world?

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

III Year B.Tech. CSE & IT-II Sem

(R18A0464) EMBEDDED SYSTEMS

UNIT-I: INTRODUCTION TO MICROPROCESSORS AND MICROCONTROLLERS:
8086 Microprocessor: Architecture of 8086, Register Organization, Programming Model, Memory Segmentation, Signal descriptions of 8086, Addressing modes, Instruction Set. 8051 Microcontroller: 8051 Architecture, I/O Ports, Memory Organization, Instruction set of 8051.

UNIT-II: INTRODUCTION TO EMBEDDED SYSTEMS:
History of embedded systems, Classification of embedded systems based on generation and complexity, Purpose of embedded systems, Applications of embedded systems, and characteristics of embedded systems, Operational and Non-operational attributes of embedded systems.

UNIT-III: TYPICAL EMBEDDED SYSTEM:
Core of the embedded system, Sensors and actuators, Onboard communication interfacesI2C, SPI, parallel interface; External communication interfaces-RS232, USB, infrared, Bluetooth, Wi-Fi, ZigBee, GPRS.

UNIT-IV: EMBEDDED FIRMWARE DESIGN AND DEVELOPMENT:
Embedded firmware design approaches-super loop based approach, operating system based approach; embedded firmware development languages-assembly language based development, high level language based development.

UNIT-V EMBEDDED PROGRAMMING CONCEPTS:
Data types, Structures, Modifiers, Loops and Pointers, Macros and Functions, object oriented Programming, Embedded Programming in C++ &JAVA

TEXT BOOKS:
1. Embedded Systems, Raj Kamal, Second EditionTMH.
2. Kenneth. J. Ayala, The 8051 Microcontroller , 3rd Ed., CengageLearning
3. Introduction to Embedded Systems - shibu k v, Mc Graw HillEducation.

REFERENCE BOOKS:
1. Advanced Microprocessors and Peripherals – A. K. Ray and K.M. Bhurchandi, TMH, 2nd Edition2006
2. Embedded Systems- An integrated approach - Lyla B Das, Pearson education2012.

MODEL QUESTION PAPER-1

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B. Tech I Semester

EMBEDDED SYSTEM DESIGN

(Common to CSE & IT)

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

1. a) Describe the Architecture of 8086 Microprocessor with neat diagram. [14]

OR

b) Define Flag and explain about different flags of 8086 Microprocessor. [14]

SECTION-II

2. a) Define Embedded System and discuss about the Classification of Embedded Systems. [14]

OR

b) i) Write the differences between Embedded Systems and General Computing Systems. [07]

ii) Write the Major Application Areas of Embedded Systems. [07]

SECTION-III

3. a) Explain about Elements of Embedded Systems with neat diagram. [14]

OR

b) Explain about a) Programmable Logic Devices (PLDs) b) COTs. [14]

SECTION-IV

4. a) Explain in detail about Super Loop based approach for Embedded Firmware design. [14]

OR

b) Explain the Assembly language to machine language conversion process with neat sketch. [14]

SECTION-V

5 a) Explain about Loops and Pointers. [14]

OR

b) Discuss about object oriented Programming embedded programming. [14]

MODEL QUESTION PAPER-2

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B. Tech I Semester

EMBEDDED SYSTEM DESIGN

(Common to CSE & IT)

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

1. a) Describe the Architecture of 8051 Microcontroller with neat diagram [14]

OR

5. b) Explain the Memory Segmentation in 8086 Microprocessor . [14]

SECTION-II

2. a) Explain the Purpose of Embedded Systems [14]

OR

b) Explain about the Characteristics of Embedded systems. [14]

SECTION-III

3. a) Explain about a) SPI Bus communication interface b) RS 232C [14]

OR

b) Explain about a) I2C (Inter Integrated Circuit) b) Wi-Fi. [14]

SECTION-IV

4. a) Explain in detail about Embedded OS based Approach for Embedded Firmware design. [14]

OR

b) Explain the High level language to machine language conversion process with neat sketch. [14]

SECTION-V

5 a) Explain about Macros and Functions. [14]

OR

b) Discuss about Structures and how it is useful in embedded programming. [14]

PYTHON PROGRAMMING [R18A0513]

QUESTION BANK

B.TECH III YEAR – I SEM (R18)

(2020-21)

DEPARTMENT OF

COMPUTER SCIENCE AND ENGINEERING

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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ISO 9001:2008 Certified

B.Tech III Year I Semester Examinations

PYTHON PROGRAMMING – (R18A0513)

Time: 3.00 Hours **MODEL PAPER -1** **Max. Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. A. Give brief introduction to python and its installation? [4+4+6]
   B. Define python? List the standard data types of python?
   C. Define variable in python and list the rules of python variables?

(OR)

2. A. Write a python program to create variables in terms of integer, float and string? [7+7]
   B. Write a python code to demonstrate type conversions using int (), float () and str ()?

Section -2

3. A. List out the control flows and explain? [5+3+6]
   B. Define Boolean expression?
   C. What are the different types of operators used to evaluate Boolean expression?

(OR)

4. A. Write a python program to accept name from the user and verify whether the user is authorized or not. [7+7]
   B. Write a python program to find biggest of two numbers using conditional if?

Section -3

5. A. Write a python function using with parameter and return type? [5+5+4]
   B. Write a python program using function to the print the value of x as local and global?
   C. Define Composition and write the syntax?

(OR)

6. A. Write a program to create a menu with the following options [10+4]

   1. Area of a circle
   2. Area of a triangle
   3. Area of a rectangle
   4. Area of a square
   5. Area of pyramid.

   Accepts users input and perform the operation accordingly. Use functions with arguments

B. Define local and global scope with syntax?

Section -4

7. A. Define file and explain the two categories of files? [5+4+5]
   B. How to import a module from a package show with an example?
   C. Define Exception? List any 6 types of exception?

(OR)

8. A. How to rename a module in python and write the syntax and program? [7+7]
   B. Write a python program to open a file and check what are the access permissions acquired by that file using os module?

Section -5

9. A. What are Python OOPs Concepts? [4+4+6]
   B. What are classes and objects?
   C. Write the syntax to create class and object?

(OR)

10. A. Write a python Program to display mrcet by using classes and objects? [7+7]
    B. Write the syntax to create a project and to run server using django?

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B.Tech III Year I Semester Examinations

PYTHON PROGRAMMING – (R18A0513)

Time: 3.00 Hours **MODEL PAPER -2** **Max. Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. A. Illustrate expression with an example? [4+4+6]
   B. Explain the basic statements we use in python?
   C. Show an example how precedence of operators effects an expression evaluation?

(OR)

2. A. Define comment and list out different types of comments with syntax? [7+7]
   B. Show indexing and slicing with different data type structures?

Section -2

3. A. Explain If _else statement in python with syntax, flowchart and example? [4+6+4]
   B. What are the different flow control statements available in python? Explain with suitable examples
   C. Explain conditional (If) statement in python with syntax, flowchart and example?

(OR)

4. A. Write a program to create a list with computer languages and display the same by using while loop. [7+7]
   B. Write a python Program to read a number and display corresponding day using if_elif_else?

Section -3

5. A. Write a sample python program to compose more than one function? [5+4+5]
   B. Define Recursion and python Recursive function?
   C. Write a python program to factorial using recursion?

(OR)

6. A. Write a Python function that takes two lists and returns True if they have at least one common member? [7+7]
   B. Write the difference between parameter and arguments in functions and explain with an example?

Section -4

7. A. Write the syntax to create, open and close a file? [7+3+4]
   B. List out different types of file modes in python?
   C. Write the syntax for import and to import all objects from a module?

(OR)

8. A. Write the syntax and program to handle exceptions? [5+9]
   B. Write a simple code using the modules of sys, calendar, time, datetime, math?

Section -5

9. A. Write a simple program to create an object and class in python? [3+6+5]
   B. Define inheritance and list out different types of inheritances?
   C. Differentiate between compile-time and run-time polymorphism?

(OR)

10. A. Write a python program to call data member and function using classes and objects? [7+7]
    B. Explore Django framework to create a simple login page ?

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B.Tech III Year I Semester Examinations

PYTHON PROGRAMMING – (R18A0513)

Time: 3.00 Hours **MODEL PAPER -3** **Max. Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. A. Define tuple and show how the tuple is immutable with different examples? [5+3+6]
   B. Define set and write example for each method of a set?
   C. Create and print the different variations or constructions of standard data types?

(OR)

2. A. Write a short note on history and features of python? [9+5]
   B. Does mutability support for list, if yes explain any two methods with example?

Section -2

3. A. Explain If _elif_else statement in python with syntax, flowchart and example? [6+6+2]
   B. List and define different types of python iteration statements with syntax?
   C. Define pass keyword in python?

(OR)

4. A. Briefly describe about break and continue statements? [5+9]
   B. Write a python program using nested for loop to print the following pattern?

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

Section -3

5. A. Define lambda, filter, map and reduce functions? [5+5+4]
   B. Write a python program to create and access the elements of array?
   C. Write a sample program to show basic data type comprehensions?

(OR)

6. A. Write a python program using function to the print the value of x as local and global? [6+6+2]
   B. Define Composition and write the syntax with an example?
   C. Define function with syntax?

Section -4

7. A. Write a python program to open and read a file [4+4+6]
   B. Explain turtle and pdb programs with example each?
   C. Explain the following
      i) Zero Division Error
      ii) Overflow Error
      iii) Import Error
      iv) Index Error
      v) Type Error

(OR)

8. A. Write program to read and write files in python? [6+4+4]
   B. Demonstrate pandas and numpy module with examples?
   C. Define package in python with an example?

Section -5

9. A. What is __init__method? [5+6+3]
   B. List and define different types of constructors?
   C. Differentiate beween class and instance variables (or atributes)?

(OR)

10. A. write a program to find sum of two numbers using class and methods? [6+8]
    B. Implement a simple web application with Django framework?

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B.Tech III Year I Semester Examinations

PYTHON PROGRAMMING – (R18A0513)

Time: 3.00 Hours **MODEL PAPER -4** **Max. Marks: 70**

Answer any Five questions (5x14 = 70 Marks)

Section -1

1. A. Differentiate between list, tuple, set and dictionary with one example each? [9+5]
   B. List out some of the python interpreters?

(OR)

2. A. Explain the modes of interpreter? [7+4+3]
   B. Define and create the list to print one of its elements?
   C. List different types of operators with its token?

Section -2

3. A. Write any program using function and explain how the flow of execution happened? [5+3+6]
   B. Define and show how we pass parameter and arguments in functions?
   C. Writer a program to read one subject mark and print pass or fail use single return Values function with argument.

(OR)

4. A. Define and explain for loop in python with syntax, flowchart and example [5+5+4]
   B. Program to find area of a circle using function use single return value function with argument.
   C. Write a python program to print "MRCET" to print 5 times?

Section -3

5. A. Define array and list out different methods? [5+5+4]
   B. Explain array representation in python and list out the basic operations?
   C. Write the syntax to import array with an example?

(OR)

6. A. What are fruitful function explain with an example? [5+5+4]
   B. Write a simple program to print "welcome to python" using return keyword with functions?
   C. Differentiate the function, fruitful function and anonymous functions with example each?

Section -4

7. A. Write a python program to write the content "hi python programming" for the existing file?
   B. Define the complete installation of pip? [6+6+2]
   C. Write a python program to create a package (Engg), sub-package (years),modules (sem) and create staff and student function to module?

(OR)

8. A. What are the advantages of modularizing code in large applications? [7+7]

   B. Explain the following
      i) Indentation Error
      ii) Syntax Error
      iii) Runtime Error
      iv) Key Error
      v) Value Error

Section -5

1. A. Write a python program to create an empty class? [5+6+3]

   B. What are the main features of oops?

   C. What is self keyword explain with an example??

(OR)

2. A. Write a python program to show inheritance in python programming? [7+7]

   B. Explain neatly to develop a weather application using Django framework?

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(An UGC-Autonomous, Accredited by NBA with NAAC-A Grade, Approved by AICTE, ISO Certified Institution)
Maisammaguda, Near Kompally, Hyderabad – 500 100. TS, India.
Department of Computer Science and Engineering

UNIT-WISE IMPORTANT QUESTIONS

Subject: SOFTWARE ENGINEERING (III Yr- I Semester R18 Regulation)

Unit-I

1. Explain the evolving role of software and explain changing nature of software in detail
2. Explain "Software myth"? Discuss on various types of software myths and the true aspects of these myths
3. What is Software Maturity Model and Explain in detail about the Capability Maturity Model Integration (CMMI) Process
4. Describe SDLC? Compare any two Software Development Models in detail
5. Explain process frame work activities

Unit-II

1. Explain requirement engineering process
2. Compare functional requirements with non-functional requirements
3. Discuss how feasibility studies are important in requirement engineering process.
4. Explain context models, Behavioural models, Data models and Object Model in briefly
5. Discuss briefly how requirement validation is done?

Unit-III

1. Discuss briefly the following fundamental concepts of software design: i) Abstraction ii) Modularity iii) Information hiding.
2. Explain software architecture in a detail manner
3. Discuss architectural styles and patterns
4. What are the design concepts in software engineering
5. Explain about the importance of test strategies for conventional software
6. Compare black box testing with white box testing and Compare Alpha Testing with Beta Testing

Unit-IV

1. Elaborate the concepts of Risk management Reactive vs Proactive Risk Strategies, How the risk will be identified and Explain the RMMM Plan inbrief.
2. Explain about Quality concepts?
5. Explain software quality assurance
6. Explain in detail ISO 9000 quality standards
7. Explain about Software Reviews and formal technical reviews
8. Discuss software reliability?

Unit-V

1. Explain about Object Oriented Analysis
2. Explain about Generic Components of the OO Analysis Model
3. Explain about OOA process
4. Explain about Object Relationship Model