

Code No: 80605

MR18(2019-20)

HT.NO:

**MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)**

Maisammaguda, Dhulapally, (Post Via Kompally), Secunderabad-500100.

**B.TECH III YEAR I SEMESTER REGULAR EXAMINATIONS, JANUARY-2022****SUBJECT: Android Application Development****BRANCH: IT.****Time: 3 hours****Max. Marks: 70****Answer all questions****5X14M=70 M****All Questions carries equal marks**

Q.NO.	QUESTIONS	MARKS	*BT LEVEL	CO
1.	a) Categorize the types of Mobile Information Architectures? b) Categorize the types of Mobile Applications?	7 7	L4	1
	<b>OR</b>			
2.	a) Illustrate about Mobile 2.0 with example? b) Explain about Mobile Web Development?	7 7	L2	1
3.	List the Android Studio Installation process?	14	L4	2
	<b>OR</b>			
4.	a) Explain the history of Mobile Software Development? b) Explain about Android SDK?	7 7	L2	2
5.	a) Explain about Intent filters? b) Explain how to manage Application Resources in hierarchy?	5 9	L2	3
	<b>OR</b>			
6.	Make use of following android activity call back methods with Life Cycle Diagram i. onCreate() ii. onStart() iii. onResume() iv. onPause() v. onStop() vi. onRestart() vii. onDestroy()	14	L3	3
7.	Drawing and working with Animations? Explain with Syntax a) Working with Text b) Working with Shapes	7 7	L2	4
	<b>OR</b>			
8.	Explain various User Interface Screen Elements with proper syntax and example?	14	L2	4
9.	Demonstrate about Android Data and Storage API's?	14	L2	5
	<b>OR</b>			
10.	Demonstrate about Android Web and Telephony API's?	14	L2	5

\*Bloom's Taxonomy Level (BT Level): L1-Remember, L2- Understand, L3- Apply, L4- Analyse, L5- Evaluate, L6- Create.



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**B.TECH III YEAR I SEMESTER REGULAR EXAMINATIONS, JANUARY-2022****SUBJECT: Automata and Compiler Design****BRANCH: IT****Time: 3 hours****Max. Marks: 70****Answer all questions****5X14M=70 M****All Questions carries equal marks**

Q.NO	QUESTIONS	MARKS	*BT LEVEL	CO																				
1.	a) Construct and equivalent DFA for the following NFA <pre> graph LR     start(( )) --&gt; q0((q0))     q0 -- "0, 1" --&gt; q0     q0 -- "0" --&gt; q1((q1))     q1 -- "1" --&gt; q2(((q2)))           </pre> b) Construct DFA for even number of 0's and odd number of 1's	7 7	L3	1																				
OR																								
2.	a) Eliminate epsilon moves from the following <table border="1"> <thead> <tr> <th></th><th><math>\epsilon</math></th><th>a</th><th>b</th><th>c</th></tr> </thead> <tbody> <tr> <td><math>\rightarrow p</math></td><td>{q, r}</td><td><math>\emptyset</math></td><td>{q}</td><td>{r}</td></tr> <tr> <td>q</td><td><math>\emptyset</math></td><td>{p}</td><td>{r}</td><td>{p, q}</td></tr> <tr> <td>*r</td><td><math>\emptyset</math></td><td><math>\emptyset</math></td><td><math>\emptyset</math></td><td><math>\emptyset</math></td></tr> </tbody> </table> b) Design an epsilon NFA accepting following language: The set of strings consisting of zero or more a's followed by zero or more b's followed by zero or more c's		$\epsilon$	a	b	c	$\rightarrow p$	{q, r}	$\emptyset$	{q}	{r}	q	$\emptyset$	{p}	{r}	{p, q}	*r	$\emptyset$	$\emptyset$	$\emptyset$	$\emptyset$	7 7	L3	1
	$\epsilon$	a	b	c																				
$\rightarrow p$	{q, r}	$\emptyset$	{q}	{r}																				
q	$\emptyset$	{p}	{r}	{p, q}																				
*r	$\emptyset$	$\emptyset$	$\emptyset$	$\emptyset$																				
3.	a) Prove that the language $L = \{0^n 1^m 2^n, n \text{ and } m \text{ are arbitrary integers}\}$ is not regular b) Design CFG for the following languages $\{0^n 1^n, n \geq 1\}$ and $\{a^i b^j c^k, i \neq j \text{ and } j \neq k\}$	7 7	L3	3																				
OR																								
4.	a) Explain with example ambiguity in context free grammar and obtain Chomsky form for the following: $E \rightarrow E+T/T, T \rightarrow a/CE$ b) Design a PDA for the language $L = \{ww^R \mid w \text{ is in } (0+1)^*\}$ .	7 7	L3	3																				
5.	a) Explain the model for a Turing machine with a neat diagram and explain ID of a Turing machine. b) Design a Turing machine for $L = \{a^n b^n c^n, n \geq 1\}$	7 7	L3	4																				
OR																								

6.	a) What are the various phases of compiler? Explain each phase in detail? b) Write a short note on Chomsky hierarchy of languages.	7 7	L2	4
7.	a) What are the problems associated with Top Down Parsing? b) Write the production rules to eliminate the left recursion and left factoring problems	7 7	L2	4
<b>OR</b>				
8.	a) Let G be a Context Free Grammar for which the production Rules are given below: S → aB bA A → a aS bAA B → b bS aBB Derive the string “aaabbabbba” using the above grammar (using Left Most Derivation and Right most Derivation). b) Compute FIRST and FOLLOW sets for all non-terminals in the following grammar S → Aa bAc Bc bBa A → d B → d	7 7	L3	4
9.	a) What are different intermediate code forms? b) Discuss different Three Address code types and implementations of Three Address statements?	7 7	L2	4
<b>OR</b>				
10.	Explain the following code optimization techniques with examples. a) Copy propagation b) Strength reduction c) Dead code elimination	5 5 4	L2	4

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Code No: 80607

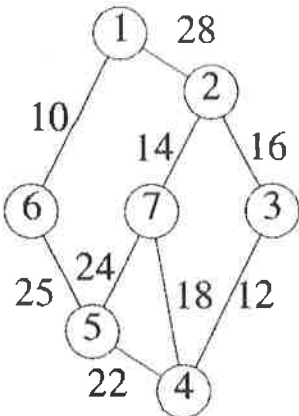
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**B.TECH III YEAR I SEMESTER REGULAR EXAMINATIONS, JANUARY-2022****SUBJECT: Design and Analysis of Algorithms****BRANCH: IT****Time: 3 hours****Max. Marks: 70****Answer all questions****5X14M=70 M****All Questions carries equal marks**

Q.NO.	QUESTIONS	MARKS	*BT LEVEL	CO
1.	a) Define the algorithm. Describe the characteristics of algorithm. b) Write the pseudocode conventions.	7 7	L2	1
	<b>OR</b>			
2.	How to determine the connected components of an undirected graph?	14	L2	1
3.	Use Strassen's algorithm to compute the matrix product $\begin{pmatrix} 1 & 3 \\ 7 & 5 \end{pmatrix} \begin{pmatrix} 6 & 8 \\ 4 & 2 \end{pmatrix}$ .	14	L3	2
	<b>OR</b>			
4.	Explain the prim's algorithm for finding the minimal spanning tree for the given graph. 	14	L3	2
5.	Give a dynamic-programming solution to the matrix chain multiplication problem.	14	L2	3
	<b>OR</b>			
6.	Explain the all pair shortest path algorithms using dynamic programming.	14	L3	3
7.	Explain the 0/1 knapsack problem with branch and bound approach.	14	L2	4
	<b>OR</b>			
8.	Describe the LC branch and bound problem using 8puzzle problem	14	L2	4
9.	Illustrate the scheduling problem.	14	L2	5
	<b>OR</b>			
10.	Explain about the NP-Hard graph problem with an example.	14	L3	5

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