	B. M.S. COLLEGE OF ENGINEERING, BANGALORE-19 (Autonomous Institute, Affiliated to VTU) **Department Name: CSE**

Second INTERNALS – Online

Course Code : 20CS5PEAAG	**Course Title : Advanced Algorithms**	
Semester :5th	**Maximum Marks: 40**	**Date: 2-12-2020**
Faculty Handling the Course:	NN,GRP	

Instructions: ***Internal choice is provided in Part C.***

PART-A

Total 5 Marks (No choice)

No.	Question	Marks	CO No.	Level
1a	Derive time complexity of Naive string matching.	**5M**	**2**	**2**

PART-B

Total 15 Marks (No Choice)

No.	Question	Marks	CO No.	Level
2a	Derive speed up of Multithreaded matrix multiplication.	**5M**	**2**	**3**
2b	Design an algorithm for multithreaded Fibonacci number generation.	**5M**	**3**	**3**
2c	Apply multithreaded merge sort to sort 12,6,9,5,8,4	**5M**	**1**	**3**

PART- C

Total 20 Marks (Choice)

No.	Question	Marks	CO No.	Level
3a	Design an algorithm for string matching using Rabin karp approach. Also apply the same to search for P="baab" in T="ababaabbab"	**10M**	**2,3**	**2,3**
	OR			
3b	Design an algorithm for string matching using Finite Automata. Also apply the same to search for P="abba" in T="ababaabbab"	**10M**	**2,3**	**2,3**
4a	Design pseudocode/program to for string matching using Horspool's technique. Also apply the same to search for P="prasha" in T="praveenprashanathpradan"	**10M**	**2,3**	**2,3**
	OR			
4b	Design pseudocode/program for string matching using Boyer Moore approach. Also apply the same to search for P="ababcb" in T="abbababababcbababcb"	**10M**	**2,3**	**2,3**