

RAGHUNATHPUR COLLEGE

Department of Computer Application

NOTICE

Date: 01/07/2021

All the students of 2nd Semester of Computer Application Department are hereby notified that they will have to submit the internal assignment in each paper through online mode within 07th July, 2021. Every student should write their registration no, and mention the paper name with course code in assignment. Students will send the assignment to departmental mail id.

BCA(H)SEM-II

Sl. No.	Course Code	Course Title	Course Type	Examiner	Mail Id
1	BBCACCHC201	Digital Logic	CC-3	SANCHITA BANERJEE	rnpc.bcdept@gamil.com
2	BBCACCHC202	Data Structure using C	CC-4	SOUGATA MUKHERJEE	rnpc.bcdept@gamil.com
3	BBCAGEHT2	Mathematics - II	GE-2	PALLAB BID	rnpc.bcdept@gamil.com
4	BAECCLET	English Communication	AECC-2	SANKHA MAJI	rnpc.bcdept@gamil.com

The assignments of CC-3, CC-4, GE-2 and AECC-2 of SEM-II will be provide in the WhatsApp group of SEM-II (BCA@2020-batch@RnpurClg) and in the college website (raghunathpurcollege.ac.in).

The assignments of above mentioned papers are followed in the next few pages.

Course Title: **Digital Logic**
Course Code: **BBCACCHC201**
Course Type: **CC-3**

F.M=20

5x4=20

Answer any four questions.

- a. Design a full adder using two half adder.
- b. Implement the following function with a multiplexer:
$$F(A,B,C,D) = \sum(0,1,3,4,8,9,15)$$
- c. Show that NOR gate is an Universal gate with proper circuit diagram.
- d. Draw the Integrated Chip diagram of the basic gates with proper inputs and outputs.
- e. Design a Master-Slave J-K flip-flop using only NAND gates.
- f. Implement the below functions with a decoder and basic gates:
$$F1(x,y,z) = \sum (0,1,4,7)$$
$$F2(x,y,z) = \sum (3,5,4,7)$$

Course Title: Data Structure using C

Course Code: BBCACCHC202

Course Type: CC-4

F.M=20

5x4=20

Answer any four questions.

- a) Write a program to implement insertion sort.
- b) Write the function code for implementing binary search.
- c) Write down the algorithm for PUSH and POP operation of stack
- d) Write function code for INSERT and DELETE operation on CIRCULAR QUEUE.
- e) Write a program for selection sort.
- f) Write a program to implement stack using linked list.

Course Title: MATHEMATICS-II

Course Code: BBCAGEHT2

Course Type: GE-2

F.M=10
2×5=10

Answer any five questions.

1. If $f(h) = f(0) + hf'(0) + \frac{h^2}{2!}f''(\theta h)$, $0 < \theta < 1$ find θ when $h = 7$ and $f(x) = \frac{1}{1+x}$

2. If $x = a(\theta + \sin\theta)$, $y = a(1 - \cos\theta)$ find $\frac{d^2y}{dx^2}$.

3. State Lagrange's Mean Value theorem.

4. If $y = \log(a + x)$ find y_n .

5. Integrate the following (any One)

(a) $\int \frac{dx}{1+\sin x}$ (b) $\int \frac{e^{x(1+x)}}{\cos^2(xe^x)} dx$

6. Define order & degree of a differential equation.

7. Show that $\int_0^{\frac{\pi}{2}} \frac{dx}{a^2 \cos^2 x + b^2 \sin^2 x} = \frac{\pi}{2ab}$.

8. Eliminate a and b from $y = a \tan^{-1} x + b$.

9. Solve $(x + y)^2 \frac{dy}{dx} = a^2$

10. Find the integrating factor of $\cos^2 \frac{dy}{dx} + y = \tan x$.

Course Title: **English Communication**

Course Code: **BAECCLET**

Course Type: **AECC**

F.M=10

Answer any five questions.

2X5=10

1. What is monologue?
2. What are the differences between verbal and nonverbal communication?
3. What is interpersonal communication?
4. What is effective communication?
5. What do you mean by intra-personal communication?
6. What is group communication?
7. What does miscommunication mean?