KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY
Hiranya Chandra Bhuyan School of Science and Technology
Home Assignment

Bachelor of Computer Application (BCA)
DSC: Digital Techniques
2nd Semester, 2024
Total Marks: 50

- **The Home Assignment should be written in your own language only.**
- **Copying from the Self Learning Material or from others shall result in deduction of marks.**
- **The last date of submission of the Home Assignment is 30/06/2024.**

Q1. Discuss the steps involved in converting an octal number to hexadecimal. Provide an example of converting the octal number 5672 to hexadecimal. (10)

Q2. Perform the addition of the following using 7 bit register in sign 2's complement method.

a) +25 and +30 b) +55 and –35 (10)

Q3. What is a Universal Logic Gate, and why is it crucial in digital logic design? Provide examples and explain how Universal Logic Gates, such as NAND and NOR gates, can be utilized to implement any logical function. Discuss the implications of Universal Logic Gates in terms of circuit simplification and versatility in digital circuit design. (10)

Question related to environment

Q4. Discuss the environmental effects of transitioning to renewable energy sources and how they compare with fossil fuels. Assess the role of renewable energy in addressing climate change while considering its impact on land use, water resources, and wildlife conservation.

(10)

Additional question in lieu of MCQ

Q5. Minimize the following expressions using Karnaugh map method:

$f(w,x,y,z)= \Sigma (2,4,6,8,9,10,12,13)$ (10)

N.B. The learners will have to collect receipt after submitting the assignment with the signature and seal of the collector of study centre and will have to keep with him/her till the declaration of result.

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Receipt

Received the assignment from Mr/Ms ……..…… Enrolment number……of BCA 2nd semester (2024) on…….....2024.

Date: Signature of collector with seal: