

BCA/1st Semester:
Computer Fundamentals & Applications
(CACS101)

Full Marks: 60
Pass Marks: 24
Time: 3 hrs

Name: _____

Roll No: _____

Candidates are required to give their answers in their own word as far as practicable.

Group B

Attempt any 6 questions.

[6*5= 30]

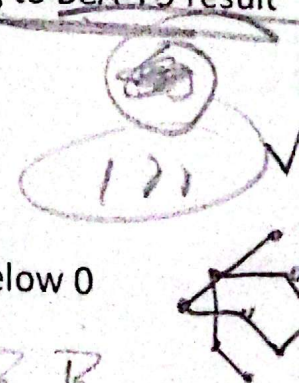
1. What is Computer interface? Describe mainframe computers essential features.
2. What is Utility Software? Describe the utility software you have in your computer.
3. What is Operating System? Explain its roles as managing resources in detail.
4. Who supervises the database in an organization? What task, scope and obligations are under their role?
5. Explain the OSI reference model in detail.
6. What are characteristics and applications of laser printer.
7. Differentiate between primary Key and Foreign key.

Group C

Attempt any 2 questions.

[2*10= 20]

8. a. What is a soft copy device? Explain the working mechanism of OMR.
b. Write DOS commands for
 - I. create directory of your name
 - II. remove the directory
 - III. switch from one directory to another directory
 - IV. find the ip address of you college website.
 - V. View in tree structure
9. a. What is ambient reality? How is it different from augmented reality?
b. Write detailed steps to create your college Identity card.
10. Create a gradesheet on spreadsheet to calculate according to BCA-TU result system.
 - a. Total, Check pass or fail.
 - b. Find the percentage if passed.
 - c. Calculate the division if passed.
 - d. Cell should not allow to enter marks above 100 and below 0
 - e. Pie chart to display Pass vs Failed students.



Selected Pass
Total Marks: 100
Roll No: B B

Group B

[6X5 = 30]

Attempt any SIX questions

11. How sociology is a general science? Discuss with examples.
12. "Family is a primary social institution". Discuss with suitable examples.
13. Define socialization and describe its stages and agents.
14. What is Technological society? Describe its features in third world society.
15. What are the key research methods of data collection in social science?
16. What is kinship? Discuss its types.
17. What are the factors of social and cultural changes? Discuss only three factors.

Group C

[2X10 = 20]

Attempt any TWO questions

18. What is national integration? Discuss its major dimensions.
19. Discuss the accountability of computer professionals towards society with examples.
20. What are the basic steps of proposal writing in social research? Describe in brief.

LUMBINI CITY COLLEGE

Bachelor of computer Application
Course Title: English I
Code No: CAEN 103
Semester : I

F.M=60
pass mark: 24
Time: 3 hour

Group "A"

Multiple choice questions

[10 x 1 = 10]

- i) No sooner had I finished my lunch I went out.
☒ a) Then b) when c) than d) but
- ii) A place where power, information, or a result leaves a system.
☒ a) Chassis b) output c) sensor d) troubleshooting
- iii) Should you require anything further at this time, please do not to contact me.
a) Void ☒ b) hesitate c) delay d) prevent
- iv) Please enclosed our current catalogue and price list.
a) Look b) find c) receive ☒ d) examine
- v) Another term for VDU is called.
☒ a) Display b) monitor c) developer d) converter
- vi) If a robot is able to change its own trajectory as per the external conditions, then the robot is considered as the.....
a) Mobile b) non-servo c) open loop ☒ d) intelligent
- vii) A piece of glass with a curved surface is used to make things appear clearer, larger, or smaller.
☒ a) Lens b) robotics c) liquid crystal d) glove
- viii) Which of the following words has a destructive meaning?
a) Chiper b) shield c) smart card ☒ d) hacker
- ix) The similar meaning (synonym) of the word inventive is
a) Skilled ☒ b) creative c) awkward d) insufficient.
- x) We were to document our program.
a) Instructor ☒ b) instructed c) instruct d) instruction.

Group "B"

Attempt any six questions

[6 x 5 = 30]

1. What are the limitations of using a personal computer? Do you think student should be allowed to use personal computer in class room.
2. What kind of facilities to online service provide. What online services are available in your country.
3. What is the operating system? Why is it important to access it on a computer before buying one.
4. What do you think the young people using PC only to play games and surfing the internet?

Adi

Adi

Adi

5. "Computers are about to take people to places they have never been able to visit before". Explain the statement based on the essay 'Fancy a Fantasy Spacecraft?'
6. Discuss some of tasks/jobs suited to robots only and show the impact of robotics revolution felt in modern society.
7. How has microchip technology changed the world forever? Illustrate.

Group "C"

Attempt any two questions.

[2 x 10 = 20]

1. Write an advertisement for a real or imaginary notebook computer. Your material should include its name, type, size, price, capacity, and the features that make it superior to other models.
2. Write an essay about a problem that directly involves you. Choose a problem you see in your neighborhood, your college, or your job, and explain how it should be solved.
3. Write a letter of inquiry to a college or university requesting information about a degree program. Be specific in your request and follow the criteria for writing letters of inquiry.

Goodluck



LUMBINI CITY COLLEGE

(Affiliated to Tribhuvan University)

Pre-Board Examination 2081

Full Marks: 60

Time: 3 Hours

BCA/ First Semester / CACS 105: Digital Logic

Candidates are required to answer the question in their own words as far as practicable.

Group "B"

Attempt any SIX Questions:

[6x5=30]

2. Subtract $675.6 - 456.4$ using both 10's and 9's complement. [2.5+2.5] ✓
3. What is universal gate? Realize NAND gate as a universal gate. [2+3] ✓
- ✓ 4. Simplify the Boolean function $F(A, B, C, D) = \sum (0, 2, 7, 8, 10)$ and don't care conditions $d(A, B, C, D) = \pi (1, 11, 14, 15)$ in both SOP and POS. [2.5+2.5]
- ✓ 5. Define combinational circuit and write the procedures for designing combinational circuit. [2+3]
- ✓ 6. Define adder. Design a full adder with its truth table, logic diagram and Boolean expression. [1+4]
7. Define decoder. Design BCD to Decimal decoder with its block diagram, truth table, circuit diagram and mathematical expression. [1+4]
8. Define priority encoder. Design 4x2 priority encoder with its block diagram, truth table, circuit diagram and mathematical expression. [1+4]

Group "C"

Attempt any TWO Questions:

[2x10=20]

9. Define PLA. Design PLA circuit with given functions.
 $F1(A, B, C) = \sum (2, 3, 5)$
 $F2(A, B, C) = \sum (0, 4, 5, 7).$
Design PLA program table also. [3+7]
10. Explain PAL with its block diagram. Design a combinational circuit using ROM that accepts a 3-bit number and generates an output binary number equal to the square of the input number with circuit diagram, truth table and block diagram. [4+6]
11. Define multiplexer. Explain 4:1 multiplexer with its block diagram, truth table and logic diagram. Implement 8:1 multiplexer with using lower order multiplexer. [2+4+4]

Group B $6 \times 5 = 30$

Attempt any six questions.

2) Out of 500 people 285 people like tea, 195 like coffee, 115 like lemon juice, 45 like tea and coffee, 70 like tea and juice, 50 like juice and coffee. If 50 do not like any drinks,

i) How many people like all three drinks

ii) How many people like only one drink?

3) Let $f: \mathbb{N} \rightarrow \mathbb{N}$ be defined by $f(x) = 2x$ for all $x \in \mathbb{N}$ where \mathbb{N} is the set of natural numbers. Show that f is one-one but not onto function.

4) How many terms of the series $2+6+18+\dots$ must be taken to make the sum equal to 728?

5) Find the adjoint of the matrix $\begin{pmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{pmatrix}$

$$S_n = \frac{a(1-r^n)}{1-r} = 6$$

6) Prove that $\begin{vmatrix} 1 & 1 & 1 \\ a & b & c \\ a^2 & b^2 & c^2 \end{vmatrix} = (a-b)(b-c)(c-a)$

7) Find the radius and centre of the circle of the $3x^2 + 3y^2 - 5x - 6y + 4 = 0$

8) If $x-iy = \frac{5-6i}{5+6i}$, then show that $x^2+y^2=1$

GROUP C $2 \times 10 = 20$

Attempt any two questions.

9) a. Define logarithmic function. If $a^2+b^2=7ab$, prove that $\log\left(\frac{a+b}{3}\right) = \frac{1}{2}(\log a + \log b)$

b). If H is harmonic mean between a and b , prove that $\frac{1}{H-a} + \frac{1}{H-b} = \frac{1}{a} + \frac{1}{b}$

10) a) Define vector and scalar product of two vectors. Prove that $\sin(A-B) = \sin A \cos B - \cos A \sin B$ by using vector method.

b) If function $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 2x+1$ and $g: \mathbb{R} \rightarrow \mathbb{R}$ defined by $g(x) = x^2-2$. Find the formula for composite function $f \circ g$ and $g \circ f$ and also verify that $f \circ g \neq g \circ f$

11. a) Define permutation and combination. In how many ways letters of "LOGIC" can be arranged so that

i) vowels may occupy odd position

ii) No vowels are together?

b) In arithmetic mean, geometric mean and harmonic mean between two unequal positive numbers are A, G, H respectively. Then prove that $A > G > H$.