

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.) / First Semester / Back

Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BIT105SH: Technical Communication (English)

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

Figures in the margin indicate full marks.

Answer ALL questions.

1. Read the following excerpt and give questions: 10

Simon Coltan, the designer of painting full, is keen to make sure his creation does not attract the same criticism. Unlike earlier artist such as Arron the painting full only needs minimal direction and can come up with its own concepts by going online for material. The software runs its own wave searches and trawls through social media sites. It is now begging to display a kind of imagination too, creating pictures from scratch. One of each original works is a series a futty landscapes, depicting trees and sky. Why some might say they have mechanical look, Coltan argues that such reaction arises from people's double standard towards software product and human produced art. After all, he says, consider that the painting full painted the landscape without referring to a photo. If a child painted a new scene from each head, you'd say it has a certain level of imagination; he points out. 'The same should true of a machine'. Software though can also be lead to unexpected result. Some of the painting fall's painting of a chair came out in black and white, thanks to a technical glitch. This gives the work an eerie, ghost like quality human artist like the rebound Ellsworth Kelly are landed for limiting there color palette-so why should computer be any different?

Researchers like Coltan don't believe it is right to measure machine creativity directly to that of humans who have had millennia to develop our skills. Others, though, are fascinated by the prospect that a computer might create something as original and subtle as our best artist. So far, only one has close.

Contd. ...

Composer David Cope invented a program called experiments in Musical intelligence, or EMI. Not only did EMI even fooled classical music experts into thinking they were hearing genuine Bach. Not everyone was impressed however. Some, such as Wiggins, have blasted Cope's work as pseudoscience, and condemned him for his deliberately vague explanation of how the software worked. Meanwhile, Douglas Hofstadter of Indiana University said EMI's created replaces which still rely completely on the original artist's creative implement audiences found out the truth they were often outraged with Cope, and one music lover even tried to punch him. Amid such controversy, Cope destroyed EMI's vital databases.

Questions:

- (a) How Simon Colton's software worked?
 - (b) What is the writers view about painting?
 - (c) What point does the Simon Colton explained in first paragraph?
 - (d) What writer refers to the painting of chair? What effect it reflected?
 - (e) What Douglas Hofstadter claimed about EMI?
- Answer the following questions: 3×8=24
2. (a) Suppose you are a president of NGO and you want to do some awareness program in the remote village about hygienic diet. Write a sample of proposal to the department of Marketing and Finance and ask them for financial assistance for your program.
 - (b) Write a cover letter with CV for the post of Senior IT Specialist published by CG Group.
 - (c) Write a description about landscape view of your hometown.
3. Prepare a Minute of Annual Meeting of ABC company that was discussed last month. 10

Contd. ...

4. Mark the tone (Falling, Rising etc.) in the following sentences. 6
 - (a) Ram does his homework.
 - (b) What's up!
 - (c) Can you help me?
 - (d) I need some money for today, do you have?
 - (e) Peter has done this work.
 - (f) What is your name?
5. Answer the followings as instructed. 5
 - (a) She has no job to do. (Tag Question)
 - (b) Ram is my friend. (Interrogative)
 - (c) Can I borrow your pen? (affirmation)
 - (d) She is not happy due to your activity (underline an adjective)
 - (e) I didn't see anyone dancing well. (underline an adverb)
6. Fill in the blanks with appropriate preposition. 5
 - (a) He is going..... office ... bus.
 - (b) John not happy ... his job.
 - (c) Mr. Kamal came... kitchen ... 6 O'clock.
 - (d) We need submit report..... a week.
 - (e) The train is leaving .. time and Han has to reach ... 3 hours.
7. Write an essay on any One of the following topics: 10
 - (a) Covid-19 and its effect
 - (b) Science: Boon or Curse?
8. Write short notes on TWO of the followings: 2×5=10
 - (a) Role of gesture in oral communication.
 - (b) Coherence in the Paragraph
 - (c) Extensive Reading

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester (New/Back)
Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32
BIT105CO/BIT175CO/BIT116CS: Computer Programming in C

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

Figure in the margin indicate full marks.

Group A

Answer TWO questions.

2×12=24

- 1(a) Define debugging and testing. 2
- (b) What do you mean by branching and looping? What is escape sequence? Explain different types of operators in C with example. 2+2+6
- 2(a) Find the output that will be generated by the following program: 6

```
#include <stdio.h>
int main()
{
    int a = 6, b = 2, x = 0;
    while ( --a > 0 && b++ <= 7 ) {
        if ( a % 2 == 0 ) {
            x += b / 2;
        }
        printf("\na = %d", a);
        printf("\nb = %d", b);
        printf("\nx = %d", x);
        return 0;
    }
}
```

- (b) Write a program to delete white space and vowels from an input sentence using pointer. 6
- 3. Explain different data types in C. Write a program to initialize an integer array of size 20 and arrange the elements in ascending order. (Use user-defined function). 4+8

Group B

Answer SEVEN questions.

7×8=56

- 4. What do you mean by functions in C? Differentiate between passing by value and passing by reference with example. 2+6

Contd. ...

(2)

- 5. What do you mean by recursion? Write a program to calculate and display Fibonacci series up to n terms using recursion. 2+6
- 6. A marking scheme in any exam is as follow:

Percentage (%)	Division
80 – 100	Distinction
60 – 79	First Division
50 – 59	Second Division
40 – 49	Third Division
0 – 39	Fail

Write a program that asks student to enter his/her marks in three subjects, calculate percentage and print the equivalent division. Remember student must pass in all three subjects to get any division; otherwise, the division will be fail. Assume full marks and pass marks for each subject 100 and 40 respectively. Assume appropriate data types.

- 7. Write a program to input a 4×3 matrix, then calculate its transpose matrix.
- 8. What are the differences between structure and union? Explain passing structure to function with example. 3+5
- 9. Create a structure named "student" that has name, roll and marks as members. Use this structure to read records of 20 students and write those records to a file. Now read back those records from a file and display the information of only those students whose marks is greater than or equal to 40. Assume appropriate data types.
- 10. What do you mean by pointers? Write a program to find the largest array element using pointer. 2+6
- 11. Write a graphics program to display a square whose sides are 100 pixels. Also draw a circle inside the square such that the circumference of the circle touches all four sides of the square.
- 12. Write short notes on any TWO: 4+4
 - (a) Algorithm and Flowchart
 - (b) String handling functions
 - (c) Dynamic Memory Allocation

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester/Final
Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32
BIT101CO: Fundamentals of Information Technology (New Course)

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

Figure in the margin indicate full marks.

Group A

Answer TWO questions.

2×12=24

1. Distinguish between analog and digital computers. Explain the features of 4th and 5th generation computers. 4+8
2. What is internet and how it differs from intranet and extranet? Discuss the guided and unguided media of computer network. 4+8
3. Explain in detail about primary memory of computer system and its various types.

Group B

Answer SEVEN questions.

7×8=56

4. Write the characteristics of a computer. Discuss the major components of computer system.
5. What do you mean by computer software? Describe about different types of computer software in brief.
6. What is output device? Explain the working of impact printers.
7. Define translator, interpreter, and compiler.
8. Why Internet is known as network of network? Explain the types of network.
9. What is e-governance? Discuss about data warehousing and data mining with their applications.
10. Discuss the role of information technology in the field of science and engineering.
11. Write short notes on (Any TWO):
(a) Cyber law (b) Optical devices (c) Multimedia

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester/Final
Time: 03:00 hrs. Full Marks: 80 /Pass Marks: 32
BIT101CO: Fundamentals of Information Technology (New Course)

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PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester

Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BIT102HS/BIT101SH/BIT111HS: Mathematics-I (New/Back)

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

The figures in the margin indicate full marks.

Group A

Answer ALL questions.

10×2=20

1. Define the Hermitian Matrix with example.
2. Write rectangular co-ordinates for the points whose spherical polar co-ordinates are $\left(1, \frac{\pi}{4}, \frac{\pi}{3}\right)$.
3. Find the equation of tangent and normal at the point (4,3) of the ellipse $3x^2 + 4y^2 = 84$.
4. Find the parametric equations of the line joining the points $P_1(1,1,0)$ and $P_2(0,2,3)$.
5. Show that subnormal to the parabola $y^2=4ax$ is a constant.
6. Find f_x and f_y of $f(x,y) = \log_e(\sin(xy))$.
7. Evaluate the double integral $\int_1^2 \int_3^5 (2x^2 + 3y^2) dx dy$.
8. Find the area bounded by the parabola $y^2=4ax$, the x-axis, and the ordinate $x=c$.
9. Expand $e^{\sin x}$ by Maclaurin series.
10. Find a unit vector perpendicular to $\vec{A} = 2\vec{i} + \vec{j} + 2\vec{k}$ and $\vec{B} = 3\vec{i} - \vec{j} - \vec{k}$.

Group B

Answer EIGHT questions.

8×5=40

11. Using the properties of determinant, evaluate

1	a	a^2
1	b	b^2
1	c	c^2

Contd. ...

(2)

2	3	5
-6	3	8
2	1	7

12. If possible, find the inverse of the matrix $\begin{bmatrix} 2 & 3 & 5 \\ -6 & 3 & 8 \\ 2 & 1 & 7 \end{bmatrix}$.
13. Find the eccentricity, foci, directrices, major axis, minor axis, and latus rectum of the ellipse $9x^2 + 25y^2 = 225$.
14. Show that four points A(4,5,1) B(0,-1,-1), C(3,9,4) and D(-4,4,4) are coplanar.
15. Find the equation of plane through the points A(2,2,1) B(3,4,2) and C(7,0,6).
16. Evaluate: $\lim_{x \rightarrow 0} \frac{\tan x - \sin x}{x^3}$.
17. Find the asymptotes of the curve $y^3 - xy^2 - x^2y + x^3 + x^2 - y^2 = 1$.
18. Find the volume of the solid generated by revolving the asteroide $x^{2/3} + y^{2/3} = a^{2/3}$ about the x-axis.
19. Verify the Euler's theorem of $u = x^n \sin y/x$.

Group C

Answer FOUR questions.

4×5=20

20. Evaluate $\iint_R xy dx dy$ where R is the positive quadrant of the circle $x^2 + y^2 = a^2$.
21. Find the radius of curvature at any point (x,y) for the curve $y^2 = 4ax$.
22. Find the shortest distance between the two skew lines $\frac{x-8}{3} = \frac{x+9}{-16} = \frac{z-10}{7}$ and $\frac{x-15}{3} = \frac{y-29}{8} = \frac{z-5}{-5}$
23. The Volume V of a sphere is $V = \frac{1}{6} \pi d^3$ where d is diameter. Find the rate of change of V with respect to d when d=25cms.
24. Find the centre, eccentricity, foci and directrices of the hyperbola $9x^2 - 16y^2 + 18x + 32y - 151 = 0$

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester/New
Time: 03:00 hrs. Full Marks: 60 /Pass Marks: 24
BIT103HS: Technical Communication (English) (New)

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

Figures in the margin indicate full marks.

Answer ALL questions.

1. What is a Technical Communication? State the fundamentals of effective communication skills. 8
2. Write a job application along with resume on the post of Computer Officer in reputed company. 8
3. Imagine that you have recently completed a research study on causes of Road accidents in Hilly Region of Nepal. Write a report on your findings to the chief of your organization. 10
4. Write short notes on any TWO: 2×4=8
(a) Intensive reading (b) Notice preparation (c) Facial expression
5. Write an essay on the scope and relevancy of studying Bachelor in Information Technology. 10
6. Imagine that you are the secretary of the Staff Association of your organization. Write a notice, giving the agenda of the first business meeting of the General Body. 8
7. Mark the primary stress on the following words: 4
Biology, hotel, blackboard, himself, civilization, conduct (n), condition, unique.
8. Change the voice of the following sentences: 4
(a) Follow the protocol notified
(b) Why did I deny you to do it?
(c) They expect good news.
(d) Would you shut the door, please?

PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester/New
Time: 03:00 hrs. Full Marks: 60 /Pass Marks: 24
BIT103HS: Technical Communication (English) (New)

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

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PURBANCHAL UNIVERSITY

2022

Bachelor in Information Technology (B.I.T.)/First Semester / Final

Time: 03:00 hrs.

Full Marks: 80 / Pass Marks: 32

BIT104HS Society & Ethics in IT (New Course)

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

Figure in the margin indicate full marks.

Group A

Answer TWO questions.

2×12=24

1. Define sociology. Show the relationship of sociology with economics and computer science.
2. What is "social change"? Explain any two theories of social change with proper examples.
3. Define national integration. "Lichhabi period its known as golden period". Justify.

Group B

Attempt SEVEN questions

7×8=56

4. Define community and discuss the role of state.
5. Put your views regarding the challenges faced by E-Commerce business in Nepal.
6. Define social stratification. Briefly explain the contemporary issues of caste and gender in the context of Nepal.
7. "You as an entrepreneur want to start an IT firm incorporating all the ethical and moral values". So, as an entrepreneur, address the common ethical issues that you may encounter in the workplace and write down the necessary steps to solve those ethical issues in your business.
8. What are the components required to be an emotionally intelligent leader in society? Explain with the suitable examples.
9. Why are social skills important? Write down the necessary steps to create a powerful first impression in society and workplace.

Contd. ...

(2)

10. "Nepal is the country of heterogeneous groups of people, where unity prevails in diversity". Describe.
 11. Write short note on any TWO:
 - (a) E-Governance in Nepal
 - (b) Social equilibrium
 - (c) Impact of globalization in Nepalese society