

ऐच्छिक द्वितीय कम्प्युटर विज्ञान (3031)

उत्तरकुञ्जिका

(Marking Scheme-2081)

समूह 'क' (Group 'A')				
Q.No.	Answer	Marks		
1	a. Telecommunication is the transmission of information over a distance using electronic means like phones, radio, or the internet. (or any other satisfactory answer)	1		
	b. Radio Broadcasting, Newspaper (or any other satisfactory answer)	1		
	c. Design View and Datasheet View.	1		
	d. The maximum number of characters allowed for a field name is 64 characters.	1		
	e. KILL "filename"	1		
	f. int, char (or any other correct keywords)	1		
2	a. Search Engines	1		
	b. Digital footprint	1		
3	a. UPS – Uninterruptible Power Supply	1		
	b. VR – Virtual Reality	1		
समूह 'ख' (Group 'B')				
4	Guided Media and Unguided Media	2		
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> i. Transmission occurs through a physical medium. ii. Uses cables like twisted pair, coaxial, and fiber optic. </td> <td style="width: 50%; vertical-align: top;"> i. Transmission occurs without a physical medium, using waves. iii. Uses wireless signals like radio waves, microwaves, and infrared. </td> </tr> </table> (or any other satisfactory answer)	i. Transmission occurs through a physical medium. ii. Uses cables like twisted pair, coaxial, and fiber optic.	i. Transmission occurs without a physical medium, using waves. iii. Uses wireless signals like radio waves, microwaves, and infrared.	
	i. Transmission occurs through a physical medium. ii. Uses cables like twisted pair, coaxial, and fiber optic.	i. Transmission occurs without a physical medium, using waves. iii. Uses wireless signals like radio waves, microwaves, and infrared.		
	b. Cyber law refers to the legal regulations that govern the use of the internet, computers, and digital communication to protect individuals, organizations, and governments from cyber crimes such as hacking, fraud, and data breaches.	1 0.5x2=1		
	Do and Don't <ul style="list-style-type: none"> • Respect others' privacy by keeping their personal information confidential. • Do not engage in cyberbullying or spread false information online. (or any other satisfactory answer)			
c. Antivirus software is a program designed to detect, prevent, and remove malicious software such as viruses, worms, trojans, and spyware from a computer system. Examples of Antivirus Software: i. Windows Defender ii. Avast Antivirus (or any other satisfactory answer)	1 0.5x2=1			
d. E-commerce is gaining popularity over traditional commerce due to its convenience and efficiency. Here are two key reasons: i. 24/7 Availability: Unlike traditional stores with fixed hours, e-commerce platforms operate 24/7, allowing customers to shop anytime from anywhere. ii. Wider Reach & Cost Efficiency: E-commerce enables businesses to reach a global audience with lower operating costs compared to maintaining physical stores. (or any other satisfactory answer)	1 0.5x2=1			
e. E-Governance refers to the use of information and communication technology by the government to provide services, exchange information, and	1 0.5x2=1			

	<p>improve efficiency, transparency, and citizen participation in governance.</p> <p>Two Examples of E-Governance Services in Nepal: Nagarik App, Online Tax Payment System. (or any other satisfactory answer)</p>																					
	<p>f. A database is an organized collection of data that allows users to store, retrieve, manage, and manipulate information efficiently. It is used to handle large amounts of structured data for various applications.</p> <p>Two Data Types Used in MS Access: Text (Short Text), Number. (or any other satisfactory answer)</p>	<p>1 0.5x2=1</p>																				
	<p>g. Field: A field is a single column in a table that stores a specific type of data. Example "Name," "Age," and "Address" are fields in a student database. Record: A record is a complete set of related data stored in a row of a table. A single student's details, such as "John, 12, New York," form a record. (or any other satisfactory answer)</p>	<p>0.5x4=2</p>																				
	<p>h. A report in a Database Management System is a formatted and organized way of displaying data from a database, usually for analysis, decision-making, or printing purposes. Better Data Presentation: Reports allow users to view data in a structured and readable format. Easy Analysis and Decision-Making: Reports help in summarizing large amounts of data, making it easier for businesses and organizations to make informed decisions. (or any other satisfactory answer)</p>	<p>1 0.5x2=1</p>																				
	<p>i. A query is a request for data retrieval, modification, or manipulation from a database. It helps users filter, sort, and analyze data efficiently.</p> <p>Different Types of Action Queries:</p> <ul style="list-style-type: none"> • Append Query • Update Query • Delete Query • Make Table Query 	<p>2</p>																				
5	<p>Memory Table:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Iteration</th> <th>c (Index)</th> <th>MID\$(t\$, c, 1)</th> <th>d\$</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>1</td> <td>C</td> <td>C</td> </tr> <tr> <td>2nd</td> <td>3</td> <td>M</td> <td>M</td> </tr> <tr> <td>3rd</td> <td>5</td> <td>U</td> <td>U</td> </tr> <tr> <td>4th</td> <td>7</td> <td>E</td> <td>E</td> </tr> </tbody> </table> <p style="text-align: center;">Final Output C M U E</p>	Iteration	c (Index)	MID\$(t\$, c, 1)	d\$	1st	1	C	C	2nd	3	M	M	3rd	5	U	U	4th	7	E	E	<p>2</p>
Iteration	c (Index)	MID\$(t\$, c, 1)	d\$																			
1st	1	C	C																			
2nd	3	M	M																			
3rd	5	U	U																			
4th	7	E	E																			
6	<p>REM to add record in an existing file. OPEN "student.dat" FOR APPEND AS #2 TOP: INPUT "Enter Name, Class and Roll No."; SName\$, C, RN WRITE #2, SNames\$, C, RN INPUT "More records"; Y\$ IF UCASE\$(Y\$)="Y" THEN GOTO TOP CLOSE #2 END Note: (PRINT #2 is also ok)</p>	<p>0.5x4=2</p>																				
7		<p>1x2=2</p>																				

	क) PRINT "Number of vowels: "; count (W\$) ख) LEN(A\$), MID\$(A\$, I, 1)	
	<u>समूह 'ग' (Group 'B')</u>	
8	<p>i) $(1503)_8$ into hexadecimal $= (343)_{16}$</p> <p>ii) $(101000101)_2$ into octal $= (505)_8$</p> <p>iii) $(1010 + 1101)_2 - (110)_2$</p> $ \begin{array}{r} 1010 \\ 1101 \\ \hline 10111 \\ 110 \\ \hline 10001 \end{array} $ <p>iv) $(100111)_2 \div (110)_2$</p> $ \begin{array}{r} 0110 \\ 110 \overline{) 100111} \\ \underline{- 110} \\ 0111 \\ \underline{110} \\ 0011 \end{array} $ <p>The quotient is 0110 and remainder is 11</p>	1x4=4
9 क)	<pre> DECLARE FUNCTION Perimeter (L, B) DECLARE SUB Volume (L, B, H) CLS INPUT "Enter length of the room: "; L INPUT "Enter breadth of the room: "; B INPUT "Enter height of the room: "; H PRINT "Perimeter of the room: "; Perimeter (L, B) CALL Volume (L, B, H) END FUNCTION Perimeter (L, B) Perimeter = 2 * (L + B) END FUNCTION SUB Volume (L, B, H) V = L * B * H PRINT "Volume of the room: "; V END SUB </pre> <p style="text-align: center;">(or any other correct coding)</p>	4
9 ख)	<pre> CLS OPEN "std.dat" FOR INPUT AS #1 PRINT "Students scoring more than 40 in Computer:" PRINT "Name", "Roll No.", "English", "Nepali", "Maths", "Computer" DO WHILE NOT EOF(1) INPUT #1, Name\$, Roll, Eng, Nep, Math, Comp IF Comp > 40 THEN </pre>	4

	<pre> PRINT Name\$, Roll, Eng, Nep, Math, Comp END IF LOOP CLOSE #1 END </pre> <p style="text-align: center;">(or any other correct coding)</p>	
10	<pre> /* Find the GREATER number */ #include <stdio.h> #include <conio.h> int main () { clrscr (); int a,b; printf ("Type first number "); scanf ("%d",&a); printf ("Type second number "); scanf ("%d",&b); if (a>b) { printf ("Greater number is %d ",a); }else{ printf ("Greater number is %d ",b); } getch (); return 0; } </pre> <p><u>OR</u></p> <pre> #include <stdio.h> int main () { int i, term = 5; printf("Series: "); for (i = 1; i <= 15; i++) { printf("%d", term); if (i < 15) { printf(", "); } term += 5; } printf("\n"); return 0; } </pre> <p style="text-align: center;">(or any other correct coding)</p>	4