



Daffodil International University
Faculty of Science & Information Technology
Department of Software Engineering

Mid Examination – Spring 2026

Course Code: SE 121; Course Title: Structured Programming

Sections & Teachers: All; MTK, MSS, JIC, MR, AHZ, SCS, PS

Time: 1.5 Hours

Marks: 25

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Interpret the output and explain value changes at each step. <pre>#include <stdio.h> int main() { int a=10,b=5,c=13,d,e,f,g,h; a = ++b; c %= a; d = (a>c) (a&c); b = (c>d) ? 1 : 0; printf("%d\n%d\n%d\n%d\n",a,b,c,d); return 0; }</pre>	[Marks-4]	CLO-1 Level-2
	b)	Rewrite both programs in a correct and compilable form. i) #include <stdio.h> <pre>int main(){ char grade = "A"; int mark= 85 float percentage = mark/10; printf(" Percentage: %d\n", percentage); return 0; }</pre> ii) #include <stdio.h> <pre>int main(void) { int a = 10, float b = 5.5; if (a = 10) printf("Equal/n"); printf("b = %f", b); for (i = 0; i < 3; i++) { printf("%d ", i); } return 0; }</pre>	[Marks-6]	CLO-1 Level-2
2	a)	A courier company uses an automated system to calculate delivery charges based on a product's <u>weight</u> and the <u>distance</u> to the delivery location. If the product weighs <u>5 kg or less</u>, no <u>extra charge</u> is applied. For weights above 5 kg, an additional 10 taka is charged for <u>each kilogram</u> beyond the first 5 kg. Similarly, if the delivery distance is <u>within 5 km</u>, no extra charge is added. For distances greater than 5 km, an extra 20 taka is charged for each	[Marks-5]	CLO-2 Level-3

	kilometer beyond the first 5 km. The <u>total delivery charge</u> is the sum of the <u>weight-based</u> and <u>distance-based</u> charges. Construct a C program that takes product weight and delivery distance as input and calculates the total delivery charge. <table><tr><th>Sample Input</th><th>Sample Output</th></tr><tr><td>Enter product weight: 4 Enter delivery distance: 3</td><td>Total Delivery Charge = 0 taka</td></tr><tr><td>Enter product weight: 8 Enter delivery distance: 6</td><td>Total Delivery Charge = 50 taka</td></tr></table>	Sample Input	Sample Output	Enter product weight: 4 Enter delivery distance: 3	Total Delivery Charge = 0 taka	Enter product weight: 8 Enter delivery distance: 6	Total Delivery Charge = 50 taka	$if(w > 5)$ $w = w - 5$ for/in $3 \times 10 = 30$ $1 \times 20 = 20$ <u>50</u>
Sample Input	Sample Output							
Enter product weight: 4 Enter delivery distance: 3	Total Delivery Charge = 0 taka							
Enter product weight: 8 Enter delivery distance: 6	Total Delivery Charge = 50 taka							
2. b)	Construct a C program using switch-case to simulate a Zombie Survival Night. A survivor starts the night with <u>60 health points</u> and goes through <u>3 encounters</u>. In each encounter: - Choosing Minor Attack (1) <u>reduces</u> health by 15 points - Choosing Major Attack (2) <u>reduces</u> health by 30 points - Choosing First Aid (3) <u>increases</u> health by 20 points If the survivor's health drops to 0 or below, the survivor dies immediately and the program stops. After the encounters are over, display the final health and whether the survivor survived or died. <table><tr><th>Sample Input</th><th>Sample Output</th></tr><tr><td>Encounter 1 : 1, Encounter 2 : 3 ✓ Encounter 3 : 2 ✓</td><td>Final Health: 35 Status: Survivor survived!</td></tr><tr><td>Encounter 1 : 2 Encounter 2 : 2</td><td>Survivor died! Health reached 0.</td></tr></table>	Sample Input	Sample Output	Encounter 1 : 1, Encounter 2 : 3 ✓ Encounter 3 : 2 ✓	Final Health: 35 Status: Survivor survived!	Encounter 1 : 2 Encounter 2 : 2	Survivor died! Health reached 0.	[Marks-5] CLO-2 Level-3 $h = 60$ $60 - 15 = 45$ $45 + 20 = 65$ $65 - 30 = 35$
Sample Input	Sample Output							
Encounter 1 : 1, Encounter 2 : 3 ✓ Encounter 3 : 2 ✓	Final Health: 35 Status: Survivor survived!							
Encounter 1 : 2 Encounter 2 : 2	Survivor died! Health reached 0.							
c)	The university library is following a very strict policy regarding the late returns of books. The library charges a fine of <u>5 BDT every day</u> for <u>every book returned late</u>. At the end of each day, the librarian needs to calculate the total fine received from the student for each book returned late. However, the number of late days for every book might be different. Build a C program to calculate the total fine amount to be paid by the student using a loop. <table><tr><th>Sample Input</th><th>Sample Output</th></tr><tr><td>Enter number of books: 3 Enter late days for book 1: 3 ✓ Enter late days for book 2: 4 Enter late days for book 3: 0</td><td>Total library fine: 35 BDT</td></tr></table>	Sample Input	Sample Output	Enter number of books: 3 Enter late days for book 1: 3 ✓ Enter late days for book 2: 4 Enter late days for book 3: 0	Total library fine: 35 BDT	[Marks-5] CLO2 Level-3 3×5 $15 + 20 + 0$ $= 35$		
Sample Input	Sample Output							
Enter number of books: 3 Enter late days for book 1: 3 ✓ Enter late days for book 2: 4 Enter late days for book 3: 0	Total library fine: 35 BDT							