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Mid-Term Examinations – April 2023			
Programme	: B.Tech	Semester	: Summer 2022-23
Course Title/ Course Code	: Introduction to Problem Solving and Programming	Slot	: A21-A27
Time	: 1 ½ hours	Max. Marks	: 50

Answer all the Questions

Q.No.	Question Description	Marks
1	Prepare an algorithm to find second highest number in an integer array. Use appropriate variable and naming with justification.	10

2	Draw the flowchart for the below given algorithm.
	• *Start*
	• *Read a, b, c values*
	• *Compute $d = b^2 * 4 * a * c$*
	• *if d > 0 then*
	   ○ *r1 = b+ sqrt (d)/(2*a)*
	   ○ *r2 = b-sqrt(d)/(2*a)*
	• *Otherwise, if d = 0 then*
	   ○ *compute r1 = -b/2a, r2=-b/2a*
	   ○ *print r1, r2 values*
	• *Otherwise, if d < 0 then print roots are imaginary*
	• *Stop*
		10
| 3 | Inspect the following code and answer the questions.<br><br>```
for i in range(10):
    i=i+2
    for j in range(10):
        j=j+1
        print(i)
```<br>How many values of will be printed for i?<br>How many times each value of i will be printed?<br>Modify the code to print i values from 35 to 40 & each value should be printed for 3 times only. | 10 |
| 4 | Provide an example for function in python. Highlight how function could be used for computing simple interest. | 10 |
| 5 | Provide any five situations where python list could be used with proper examples. | 10 |

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