



DECEMBER 2021: END SEMESTER ASSESSMENT (ESA) B TECH VII SEMESTER
UE17CS421 – INFORMATION SECURITY

Time: 3 Hrs	Answer All Questions	Max Marks: 100
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1	a)	Define Information Security.	2
	b)	Expand the list of security characteristics for Information, CIA triad and explain them.	6
	c)	List the key measures to differentiate Vulnerability, Threat and Attack	3
	d)	Mention the phases of Secure SDLC and elaborate them.	9
2	a)	Illustrate the purpose of SetUID bit and Environment variables with an example?	5
	b)	Write short notes on shell shock attack	5
	c)	A successful buffer overflow requires the attacker to be able to do three key tasks. What are those tasks? Explain them.	6
	d)	One way an attacker can defeat Address Space Layout randomization (ASLR) is, if the attacker is able to read beyond the end of a buffer. Describe how the attacker can exploit such vulnerability to defeat ASLR	4
3	a)	To get started with threat modelling, what are the four key questions to be queried? Explain them.	6
	b)	Explain STRIDE Threat Modelling in detail.	8
	c)	List and explain the four categories of Privacy Taxonomy in detail.	6
4	a)	Assume that Alice (EID5000) is not satisfied with the salary she gets. She would like to increase her own salary using the SQL injection vulnerability. Explain the SQL injection attack process with a neat diagram which Alice use to increase her salary	8
	b)	What is Cross Site Request Forgery attack (CSRF)? Enumerate the causes of CSRF and discuss the countermeasures for each of them.	8
	c)	Differentiate Nonpersistent and persistent XSS attack.	4
5	a)	What do you mean by static analysis? When static analysis is used? List some tools for static analysis.	6
	b)	Explain the Pen testing process in detail.	8
	c)	List four web hacking tools and explain their usage.	6