



PES University, Bengaluru
(Established under Karnataka Act No. 16 of 2013)

**December 2017: End SEMESTER ASSESSMENT
B.TECH. VII SEMESTER ELECTIVE CSE**

UE14CS421: INFORMATION SECURITY

Time: 180 Mins

Answer All Questions

Max Marks: 100

Questions			Marks
Q1.	A1	What is the purpose of the Strict-Transport-Security header in HTTP?	3
	A2	Please explain clearly what attack is being prevented by this header.	2
	A3	What is the limitation and how do applications like Google Chrome address this limitation.	5
Q1	B	Write the 7 layers of the OSI model and explain its mapping to the TCP/IP layers.	5
Q1	C	What is "content Security Policy"? Explain its purpose with an example. How can CSP be tested?	5

Q2	A	<p>The software company PESSoft is selling a new defense against DDoS attacks. Their software looks at the source IP address on all incoming packets, and if it finds any IP address that accounts for more than 1% of traffic over the last hour, it installs an entry in the router that blocks all packets from that address for the next 24 hours. Their marketing folks are claiming that this will stop all DDoS attacks.</p> <p>(a) Is this a good solution? Explain your justification.</p> <p>(b) Will this solution detect forged IP addresses,</p> <p>(c) Will this protect against overwhelming compute resources?</p> <p>(d) Will the solution protect the genuine user?</p> <p>Your answer should explain to the point the above scenarios.</p>	<p>Marks</p> <p>3</p> <p>2</p> <p>2</p> <p>3</p>
Q2	B	Explain three main network threats that a firewall does not protect against.	5
Q2	C	Choose the correct answer to fill in the blanks.	5
	C1	<p>_____ is the most common method used to conceal small blocks of data, such as encryption keys and hash function values, which are used in digital signatures.</p> <p>A) Symmetric encryption B) Data integrity algorithms</p> <p>C) Asymmetric encryption D) Authentication protocols</p>	
Q2	C2	A common technique for masking contents of messages or other	