



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: IT System Security and Physical Security
Program: B. Tech (CSE+CSF)
Course Code: CSSF2009

Semester: III
Time : 03 hrs.
Max. Marks: 100

Instructions:

- All questions are compulsory
- Draw diagrams to illustrate your answer wherever you feel necessary.
- **Section A** has 5 Questions of 4 marks each, these are short answer type.
- **Section B** has 4 Questions of 10 marks each, these are of medium duration type.
- **Section C** has 2 Questions of 20 marks each, these are of long answer type

SECTION A
(Scan and Upload)

S. No.		Marks	CO
Q 1	Database stores information uploaded or submitted by users for others to retrieve and access. What are the main aims of Database Security?	4	CO1
Q 2	CIA Triad is a well-known, venerable model for the development of security policies used in identifying problem areas, along with necessary solutions in the arena of information security. Discuss CIA Triad around your daily work?	4	CO1
Q 3	Physical Security Audit involves visual inspections of site that can help determine how well the security measures are working. What are the nine points of concern for Physical Security Auditors?	4	CO2
Q 4	There is a lot of buzz around the endpoint detection and response of late. The legacy user system security market, traditionally has been dominated by large anti-virus vendors. Differentiate between End Point Protection and Antivirus with examples.	4	CO2
Q 5	Mention the steps of fire inspection process and the fire suppression techniques?	4	CO3

SECTION B
(Scan and Upload)

Q 6	Due to the crucial role of an Operating System in functioning of any computer system, the security (or lack of security) has fundamental impact to the overall security of the computer system, including application and data security within the system. Discuss at least five threats faced by Windows 10 Operating Systems.	10	CO1
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Q 7	<p>System Port numbers range from 0 to 65535, but only 0 to 1023 are reserved for privileged services and designated as well-known ports.</p> <ul style="list-style-type: none"> • Explain the terms - Ports and Sockets? • What are major tasks of an Operating System? • What are the different models of securing an OS? • Give examples of Windows, Linux, Mobile and Server OS. 	10	CO2
Q 8	<p>Servers are central repository to hold information and system programs accessed by users within the network. Web Servers and Application Servers are employed to deliver sites and deliver operations between users and back-end business applications of the organization. Compare and differentiate between Web Servers and Application Servers with examples.</p> <p style="text-align: center;">OR</p> <p>Businesses are constantly at risk of theft, particularly when their physical assets aren't fully secure. The best way to keep threats and thieves at bay is to break down security into layers. Explain the layers of Physical Security.</p>	10	CO3
Q 9	<p>User processes performing malicious task equates to application and program level threat and attacks. Mention at least five application threats.</p>	10	CO4
SECTION-C (Scan and Upload)			
Q 10	<p>Illustrate with examples the difference between the outer layer and the inner layer of Physical Security as compared with IT Security.</p> <p style="text-align: center;">OR</p> <p>Discuss at least five Mobile, Application and Database Security Threats. What do these threats lead to?</p>	20	CO5
Q 11	<p>Secure System Development Lifecycle involves processes and procedures to enable development teams create software and applications that can significantly reduce security risks, eliminate security vulnerabilities and reducing costs</p> <ul style="list-style-type: none"> • Explain all the phases of Secure System Development Lifecycle. • If you are the IT Head, how would you implement Security Controls for Data and IT Operations? 	20	CO6