(3 Hours)

N.B. (1) Question number 1 is compulsory.
(2) Solve any 3 from remaining.
(3) Assume suitable data where ever necessary.

Q.1.
(a) What are major differences in CSS3 and CSS2? 10
(b) Explain in detail Responsive Web Design with an example. 10

Q.2.
(a) Define bounce rate, exit rate, conversion rate and engagement with respect to web analytics. 10
(b) How does AJAX web application model supports RIA 10

Q3.
(a) What is importance of testing and experimentation in Web analytics 2.0. Also explain pros and cons of available MVT. 10
(b) Explain in detail Responsive Web Design with an example. 10

Q4.
(a) What is SOAP protocol ? Explain message structures briefly 10
(b) Write detailed note on JSON server side with neat labeled diagram? 10

Q5.
(a) What are different components of Semantic Web Stack? 10
(b) Explain the role of web ontology language OWL for semantic web. 10

Q6.
(a) Design a vocabulary by defining suitable classes and properties for a movie information data. Represent same in sample RDF statements. 10
(b) Write note on: (i) Simple Knowledge Organization System (ii) SPARQL 10

Q.P. Code:-24594

(3 Hours) Total Marks: 80

Instructions: - 1) Question No 1 is compulsory; solve any 3 questions from remaining 5 questions.
2) Assume suitable data wherever necessary.
3) Figures to the right indicate full marks.

Q 1 a) You are the risk manager of insurance company. What are the risks you will have to manage and how? Give a liable framework for management of risk. (10)

b) Every business has its own size of risk. Discuss. (10)

Q 2) a) How an organization should maintain sound risk management and internal control system. (10)

b) Discuss how the shareholder's interest is affected by not doing proper risk management practices. (10)

Q 3) a) Explain frame work of Enterprises Risk Management in detail. (10)

b) Explain Qualitative and Quantitative risk approaches. (10)

Q4) a) Explains information security policy standards. (10)

b) Explain role of CM in security of Organization. (10)

Q 5) a) Explain various scanning and analysis tools . (10)

b) What are legal financial and social benefits of risk management. (10)

Q 6) Write short notes on (20)

a) Security audit process.
b) IP network Scanning

Q.P. Code: 24910

(3 Hours) **Total Marks: 80**

Instructions: - 1) Question No 1 is compulsory; solve any 3 questions from remaining 5 questions.
2) Assume suitable data wherever necessary.
3) Figures to the right indicate full marks.

Q1 a) What is enumeration? What information can be enumerated by intruders? Explain the different enumeration techniques. (**10**)
b) How are Trojans deployed? What are the different techniques used by Trojans to evade antivirus software? (**10**)

Q2) a) What is packet sniffing? How is it done? What are the threats due to packet sniffing? (**10**)
b) Why is session hijacking successful? What are the key session hijacking techniques? Explain. (**10**)

Q3) a) Explain the following techniques of firewall identification:
i) Port scanning ii) Banner grabbing iii) Firewalking (**10**)

b) Explain how law enforcement is done in computer forensics. (**10**)

Q4) a) Discuss the process of handling a digital crime scene with an example. (**10**)

b) How does rootkit work? Explain. How can the system be protected against rootkit? (**10**)

Q5) a) What types of denial of service attacks can be launched against intrusion detection systems? Explain. (**10**)

b)What knowledge require to create to program Buffer overflows? What are the steps to create Buffer overflow. (**10**)

Q6) Write short notes on (Any four). (**20**)

i) Biometric Security System.
ii) Legal implications of hacking.
iii) Netcat.
iv) Challenges in event handling
v) Password attacks on Windows OS.

(Time: 3 Hours) **[Total Marks: 80]**

NOTE: 1. Question No 1 is compulsory

2. Attempt any three questions from remaining.

3. Assume suitable data if necessary.

Q1 Attempt ***any four*.**

a) Mention the levels of parallelism available in parallel processing approaches. (05)

b) Differentiate between the SIMD and MIMD architecture. (05)

c) Evaluate the 4-ary hyper tree with n=16. (05)

d) Discuss the term *collective communication* in MPI. (05)

e) Explain the cache coherence problem. (05)

Q2 a) Explain the Foster's design methodology and apply the same to any one sorting algorithm. (10)

b) Explain the term Isoeffciency of Amdahl's law. (10)

Q3 a) Derive the expression for speedup and efficiency by Amdahl's law and comment on the same. (10)

b) Discuss the CUDA memory model neatly. (10)

Q4 a) Write a small program demonstrating functional and compiler directives in OpenMP Paradigm and MPI Paradigm (10)

b) Build and evaluate the $\mathbf{2^3}$ butterfly network topology. (10)

Q5 a) Explain the CPU+GPU architecture and its processing flow. (10)

b) Differentiate between the buffered blocking and non-buffered blocking message passing operation in MPI. (10)

Q6 Attempt ***any two.***

a) Discuss MapReduce in brief. (10)

b) Discuss the fork and join model used by OpenMP. (10)

c) Comment on communication and synchronization issues in parallel computing. (10)
