P-Code 17011.

M.E. Sem II Choice Base (IT). May 2017

Security & Risk Management.

Q.P.Code: 017011

(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 large hotel. What are the risks you will have to manage and how? Give a liable framework for management of risk. (10)

b)Discuss briefly the stages of an attack on IT infrastructure. List and explain some of the tools that can be used at each stage. (10)

Q 2) a) Explain in detail the Qualitative Approach of Risk Assessment. (10)

b) What are the components of Enterprise Information Security Policy (EISP)? Compare with Issue Specific Security Policy SysSP. (10)

Q 3) a) Discuss some port scanning methods used by attackers and security consultants and list some tools to perform the same. (10)

b) Discuss systems criticality matrix and Information criticality matrix for an organization dealing with insurance policy online. (10)

Q4) a) What is risk assessment framework. Explain any risk assessment framework in detail. (10)

b) Discuss the assessment of database and web applications services. (10)

Q 5) a) Give a brief overview of the SSE-CMM maturity model. (10)

b) Explain what is Information planning and Governance. What are Information policy standards? (10)

Q 6) a) What are the contents of a good report? What are post assessment activities. (10)

b) List the different categories of threats to information security and elaborate on any three. (10)

M.E. Sem II (Choice Base) IT
High Performance Computing

May 2017.

Q. P. Code : 13949

(3 hours) **[80 marks]**

Instructions: 1. Question number 1 is compulsory
2. Attempt any three questions from Question no 2 to Question no 6.
3. Assume suitable data if necessary.

Q1. A) What are the dataflow design alternatives? Explain in Detail. [10]

B) Explain the recent developments in Nanotechnology and its impact on HPC [10]

Q2. A) Explain SIMD, MIMD and SMIT architecture? [10]

B) Define CUDA? Explain the CUDA processor architecture. [10]

Q3. A) Give difference between MPI and Open MP. [10]

B) Why process synchronization is required? Explain different types of synchronization mechanisms briefly. [10]

Q4. A) What are the principles of Message passing programming? [10]

B) Explain in detail Memory hierarchy and transaction specific memory design using CUDA? [10]

Q5 A) Design parallel algorithm structure for performing Partitioning and Matrix input / Output. [10]

B) Explain architecture of NVIDIA GPU. [10]

Q6. Write short note on the following **(any Two) :** [20]

a) Major design issues of Data Flow computers.
b) Loosely coupled system vs. tightly coupled system.
c) PetaScale Computing.
d) Quantum Computers.

ME / Sem-II / Choice Base / T7132 / T2576 ADVANCED WEB TECHNOLOGY / May-2017
INFT

Q.P. Code : 17066

[Time: Three Hours] **[Marks:80]**

Please check whether you have got the right question paper.

N.B: 1. Question.No.1 is compulsory.
2. Attempt any three questions from the remaining questions.
3. Assume suitable data wherever applicable.

Q.1 a) Explain the paradigm of web Analytics 2.0. **10**
b) Explain various web site design issues. **10**

Q.2 a) Explain how rich Internet applications can be developed with help of AJAX. **10**
b) Explain the critical web metrics used in clickstream analysis. **10**

Q.3 a) Explain the semantic web stack. **10**
b) Describe SOAP protocol and the message structure briefly. **10**

Q.4 a) Design a vocabulary for describing books and communicating about them with other people. Model the vocabulary by defining suitable classes and properties, and create a conceptual model. Then write sample statements in RDF. **10**
b) Write an ontology about geography: cities, countries, capitals, borders, states, and so on. **10**

Q.5 a) Explain A/B testing and multivariate testing for testing websites. **10**
b) Explain any open source framework for rich internet applications. **10**

Q.6 a) Explain how to design a responsive web with HTML5 and CSS. **10**
b) What is Web Service Architecture and explain SOA characteristics supported by web services. **10**

ME / INFT / T7132 / T2578 ELECTIVE I / AI & MACHINE LEARNING / May-2017

Sem-II [Choice Base]

Q.P. Code :17180

(3 Hours) Max. Marks: **80**

Please check whether you have got the right question paper

N.B.: (1) Question No. **1** is **compulsory**.
(2) Attempt any **Three** questions out of remaining **Five** questions.
(3) **Figures** to the **right** indicate **full** marks.
(4) Assume suitable data if **necessary**.

Qu-1	a)	Discuss the performance of Iterative Deepening Depth First Search.	05
	b)	List and explain the best suited problem characteristics for Decision tree learning.	05
	c)	List and explain components of AI Program.	05
	d)	Explain Elements of Reinforcement Learning.	05
Qu-2	a)	Which agent is applicable for Automatic car and Robot Mail & Parcel sorting? Justify your choice of agent.	10
	b)	Explain Error Back propagation algorithm in detail.	10
Qu-3	a)	Explain Hidden Markov Model with the help of example which includes state transition matrix, observation probability matrix, and initial probability matrix. Explain how Viterbi algorithm reduces complexity from exponential to linear?	10
	b)	Explain stock price prediction using suitable model for learning, training and testing in detail.	10
Qu-4	a)	Explain working Support Vector Machine with suitable example.	10
	b)	Consider the following rule based system with ***Rules:*** *R1*: IF hot AND smoky THEN ADD fire *R2*: IF alarm_beeps THEN ADD smoky *R3*: IF fire THEN ADD switch_on_sprinklers *R4*: IF dry THEN ADD switch_on_humidifier *R5*: IF sprinklers_on THEN DELETE dry ***Facts:*** *F1*: alarm_beeps *F2*: hot *F3*: dry Apply forward chaining algorithm and backward chaining algorithm to solve the problem.	10
Qu-5	a)	Explain Logistic Regression with suitable example.	10
	b)	Explain Naive Bayes classifier with suitable example.	10
Qu-6		Write short note on any **FOUR**	20
	a)	Perceptron learning rule.	
	b)	Partially Observable States.	
	c)	Propositional logic	
	d)	Local beam search	
	e)	Applications of AI	

E-/Sem-II/ T5732 TO T8432T / T8050 ELECTIVE II RESEARCH METHODOLOGY / May-2017

All branch

Q.P.Code:13395

choice based

(3 hours) **[Max Marks-80]**

N.B. (1) Attempt any four questions out of six questions

(2) Assume any additional data if necessary and state it clearly

(3) Explain answers with neat sketches wherever necessary

1. a) Explain in detail the essentials of a good research report [10]

   b) Explain the statistics for Data Analysis and Reporting. [10]

2. a) Explain in brief the stages in Scientific Research process [10]

   b) Briefly describe various types of research [10]

3. a) What do you mean by 'Sample Design'? What points should be taken into consideration by a researcher in sample design for any research project? [10]

   b) Formulate a research problem, taking into consideration all the aspects [10]

4. a) Explain in details the characteristics of research [10]

   b) Enumerate the different methods of collecting data giving one example each [10]

5. a) State the objectives of research and illustrate the issues and problems in research [10]

   b) Explain validity testing for research and the ethical issues faced [10]

6. a) What do you understand by Research Design? State its types and significance [10]

   b) What are the Characteristics of a good hypothesis? Explain (i) Type I and Type II errors (ii) Level of Significance (iii) variables in Hypothesis [10]
