FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (Old) Examination, July 2014

Subject: Intellectual Property Rights
(Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part - A. Answer any five questions from Part - B.
PART – A (25 Marks)

1	What is meant by proprietary and personal rights?	3
2	Write short notes on geographical indications of goods.	3
3	What is meant by infringement of copyright?	2
4	Define neighbouring rights.	2
5	Write about qualifications of a patent agent.	3
6	List out the purpose and functions of trademark.	3
7	Define temporary injunction.	2
8	Write short notes on industrial designs.	3
9	Write few rights and duties of proprietor of design.	2
10	What are computer databases? What kind of protection is accorded to them?	2

PART – B (50 Marks)

11   Explain the new forms of intellectual property.

12   What is 'Passing off' in relation to a trademark? Explain with suitable illustrations.

13   Define design and explain its essential features.

14   Copyrights protect expressions and not ideas – Elaborate.

15   A patent is a techno legal document – Explain.

16   Discuss the impact of TRIP'S agreement on the Indian regime of IPRS.

17   Who is the owner of copyright? How can the ownership of copyright be transferred?

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (New) (Suppl.) Examination, July 2014

Subject: Intellectual Property Rights (Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1 A) Which of the following cannot be protected by copyright?   ( )
    a) Folklore   b) Literary works
    c) Musical compositions   d) Graphic works
  B) Which of the following is not patentable under the 1988 Patent Act?   ( )
    a) Chemical formulae   b) New products
    c) Mathematical processes   d) Manufacturing processes
  C) Which of these works does the right of attribution apply to?   ( )
    a) Computer programmes   b) Typefaces
    c) Databases   d) None of the above

2 A) Negotiations about intellectual property rights are most important to   ( )
    a) Colombia   b) India
    c) USA   d) Russia
  B) Which of the following is not an example of literary work   ( )
    a) A character from novel   b) A shopping list
    c) A text book   d) A bus timetable

3 If a trademark is _____, it is protected by use even if it is not registered.

4 The minimum term of protection for copyright under Rome Convention was _____ years.

5 Duration of design right is the most accurate to market with in _____ years of creating them.

6 Scotch Whiskey is an example of _____.

7 Berne Convention deals with the protection of _____.

8 Match the following
   i) Paris Convention   a) Transfer of Property Act
   ii) Berne Convention   b) 1999
   iii) Least developed countries are granted
      a longer transition period of   c) Trademark
   iv) Collective marks are subject matter of   d) 1967
   v) A patent can be subject matter of a
      mortgage under   e) 971
                                              f) Indian Penal Code
                                               g) 11 years

9 State true / false
   i)   Universal Copyright Convention has replaced the Berne Convention   (   )
   ii) Preventing others from making copies of his / her work is an exclusive right
        under Copyright.   (   )
   iii) Broadcasting Organizations can also become members of the Collective
        Management Organization.   (   )
   iv) India has ratified the internet treaties.   (   )
   v)   Nullity of assignment automatically leads to the nullity of the trademark
        rights of the assigner.   (   )

10 Problems:
   i)   Is it possible to use the Copyrighted musical work from a film without the
        permission of the copyright owner?
   ii) Kerala Govt applies for registration of jute products as a geographical
        indication. Can it do so?
   iii) Raju is the music composer of a cinematograph film, can his rights be defeated
        by the producer of the film.
   iv) C wants to register a particular sound as trademark in India. Can he succeed.
   v)   A and B are joint owners of a copyright for a book. Can A exploit it individually?

PART – B (5x10 = 50 Marks)

11 Discuss the evolution of intellectual property and protection of IPR in detail.

12 Explain the role of patent offices in India and jurisdiction.

13 What is an industrial design? Outline the forms of industrial properties related to
   plant and industrial designs.

14 Describe the concepts of trademark and rights arising from trademark registration.

15 Describe the procedure for filing of patents.

16 Name four different organs of the WIPO. Describe their functions.

17 Digital economy has posed several challenges for intellectual property rights –
   Explain.

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (New) (Suppl.) Examination, July 2014

Subject: Wireless and Mobile Communications
(Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	Define far field distance of a transmitting antenna.	2
2	Define path loss – write expression for path loss for ground reflection two ray model expressed in dB.	3
3	How much band width is required for a analog frequency modulated signal that has an audio bandwidth of 5 KHz and modulation index is 3 (three).	2
4	List the factors that influence the choice of digital modulation.	2
5	Discuss about pseudo noise sequences.	3
6	What are the different reasons for handoff?	2
7	Sketch TDMA frame structure.	2
8	Write the need for mobile IP.	3
9	Briefly explain about tunneling and encapsulation.	3
10	Explain the principal of IP in IP encapsulation.	3

PART – B (50 Marks)

11	Explain methods used for improving capacity and coverage of a cellular system in detail.	10
12	a) Explain knife edge diffraction model.	5
	b) Discuss about indoor propagation models.	5
13	Draw the block diagram of DS-SS system and FHSS and explain them.	10
14	Explain about TDMA and CDMA in detail.	10
15	Explain DHCP and describe how a DHCP client initialized.	10
16	Discuss about different approaches of mobile TCP.	10
17	Write short notes on any **two**.	10
	a) GSM	
	b) Mobile Networks	
	c) Outdoor propagation models.	

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (New) (Suppl.) Examination, July 2014

Subject: Ad-hoc and Sensor Networks
(Elective – II)

Time: 3 Hours **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	Differentiate between fast fading and slow fading.	3
2	Give the need for medium access control.	2
3	What are expected and requested zones?	3
4	List various table driven routing protocols.	2
5	Define weight based multicast protocol.	2
6	List the advantages and disadvantages of bandwidth efficient multicast routing protocol.	3
7	What is hybrid co-ordination function?	2
8	List various attack prevention techniques for mobile adhoc networks.	3
9	What is a sensor networks?	2
10	What are the different layers of wireless sensor network architecture?	3

PART – B (50 Marks)

11 Compare the characteristics of various wireless technologies. 10

12 Explain the working of CGSR protocol. Also mention its advantages and disadvantages. 10

13 Explain about multicast adhoc on-demand distance vector routing protocol. 10

14 Explain about ticket based QoS routing protocol. 10

15 Discuss about demand-based and contention-based MAC protocols for sensor networks. 10

16 Discuss the issues in the design and deployment of adhoc networks. 10

17 Write short notes on:
   a) MAC protocols for wireless sensor networks 5
   b) Adhoc transport protocol. 5

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (New) (Suppl.) Examination, July 2014

Subject: Distributed Systems (Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	What are various forms of transparency in distributed systems?	3
2	How are network operating systems different from distributed operating systems?	2
3	Distinguish between transient and persistent communication of messages.	2
4	Give examples to show the quality of service (QoS) requirements in stream-oriented communication.	3
5	Distinguish between iterative server and concurrent server.	3
6	What are the advantages of user-level threads?	2
7	What is the specific advantage of CORBA in distributed systems?	3
8	How are caching and replication addressed in DCOM?	2
9	How do the requirements of multimedia systems differ from those of real-time systems?	2
10	Give an example of real-time scheduling methods that suit the model of regular continuous multimedia streams.	3

PART – B (50 Marks)

11	a)	What are the various goals of distributed systems? Explain.	6
	b)	How can edge servers be used to optimize content and application distribution?	4
12		Explain the principle and various steps in remote procedure calls between a client and a server.	10
13	a)	Explain the working of a multithreaded server organized in a dispatcher / worker model.	5
	b)	What are the possible different layers when trying to implement a large name space.	5
14		Based on naming, synchronization and replication approaches, distinguish among CORBA, COM, DCOM and GLOBE.	10
15	a)	Using examples explain the characteristics of typical multimedia streams.	4
	b)	What are the main quality of service parameters which are negotiated between an application and its underlying system?	6
16	a)	Explain the use of message broker in message queuing systems.	4
	b)	What is "Linking" and "mounting" in context of distributed systems.	6
17		Write short notes on:	
	a)	Use of hierarchical approaches in naming	5
	b)	Fair scheduling in multimedia systems.	5

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (Old) Examination, July 2014

Subject: Digital Instrumentation and Control (Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	Distinguish between SCR and TRIAC.	2
2	Define transducers and write types of transducers.	3
3	Explain different process control modes briefly.	3
4	Briefly explain thermistor characteristics.	2
5	Distinguish between photodiode and light emitting diode.	2
6	Explain working principle of Actuators.	3
7	Define final control element.	2
8	What is a controller mode? List the controller modes.	3
9	State the characteristics of digital data.	2
10	Define stability of a control system and also explain how to maintain it.	3

PART – B (50 Marks)

11	a)	Draw the block diagram of process control system and explain each elements of process control system.	5
	b)	With a neat diagram explain the operation of A/D conversion.	5
12		Describe the pressure and flow sensors in detail.	10
13		Present the working operation of any two optical sources employed in process instrumentation.	10
14	a)	What is a ladder diagram program in PLC's? Explain it by taking a typical program.	5
	b)	Explain the following modes of operations of analog controllers (a) P.I. (b) P.I.D.	5
15	a)	Differentiate analog and digital controllers.	5
	b)	Discuss the design considerations in analog controllers.	5
16		Present various aspects of final control and control elements.	10
17		Write short notes on the following:	
	a)	Actuators	3
	b)	Thermocouples	4
	c)	Photo detectors	3

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (Old) Examination, July 2014

Subject: Grid Computing (Elective – II)

Time: 3 Hours **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	Differentiate between condor and condor-G.	3
2	How is grid used in financial analysis and services?	2
3	How does web service architecture differ from web architecture?	3
4	Draw the grid layered architecture.	2
5	Discuss about life cycle of Grid service instance.	3
6	What are the requirements for describing web services based on OGSI?	2
7	Define Reliable File Transfer.	2
8	Give an overview of GT3 index service.	3
9	What are the characteristics of MPI?	3
10	How is error handling done in MPI?	2

PART – B (50 Marks)

11 Write about early grid activities and current grid activities. Explain the drawbacks of first and second generation grid computing. 10

12 Describe the process of XML messaging and enveloping. 10

13 Explain about OGSA basic services. 10

14 Write about high-level services offered in GT3 Toolkit. 10

15 Explain about platform independence in MPI. 10

16 Write short notes on:
   a) WS notifications and WS-delegation 5
   b) Distributed data access and replication in OGSA 5

17 a) Explain parameter sweep algorithm with an example. 5
   b) Write about common management model service. 5

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FACULTY OF INFORMATICS
B.E. 4/4 (IT) I – Semester (Old) Examination, July 2014

Subject: Data Warehousing and Data Mining (Elective – II)

Time: 3 Hours   **Max.Marks: 75**

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	List the steps involved in the KDD process.	2
2	List the methods used for handling missing values.	3
3	Define the join step of Apriori algorithm.	3
4	Distinguish between ROLAP and MOLAP.	2
5	State Baye's theorem.	2
6	Define Gini index and how it is used.	3
7	What is a categorical variable? How to compute dissimilarity between two categorical variables?	3
8	State the principle of cluster analysis.	2
9	Give an example for spatial association rule.	2
10	Specify text indexing techniques.	3

PART – B (50 Marks)

11	a)	Describe the factors for classifying data mining systems.	5
	b)	Describe discretization and concept hierachy generation for numerical data.	5
12	a)	Discuss the OLAP operations used in multi dimensional data model.	5
	b)	Explain frequent intemset mining using vertical data format with an example.	5
13	a)	Explain three-tier data warehouse architecture.	5
	b)	Explain dimensionality reduction techniques.	5
14	a)	Explain Baye's classification.	5
	b)	Write about classifier accuracy measures.	5
15	a)	Discuss about various categories of clustering.	5
	b)	Explain statistical distribution based outlier detection.	5
16	a)	Discuss spatial data cube construction and spatial OLAP.	5
	b)	Discuss about text mining approaches.	5
17		Write short notes on:	
	a)	Metadata repository	3
	b)	Support vector machines for linearly separable data	4
	c)	Text retrieval measures.	3

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