FACULTY OF INFORMATICS

B.E. 4/4 (IT) I – Semester (Main) Examination, Nov. / Dec. 2012

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 is a kind of industrial property?   (   )

   a) Patent   b) Copy right
   c) Performer's right   d) Broadcast Reproduction Right

   B) Paris convention of 1883 deals with the protection of   (   )

   a) Literary works   b) Artiste works
   c) Industrial property   d) Musical works

   C) 'Nagpur Orange' is an example of   (   )

   a) Geographical Indication of goods   b) Patent
   c) Trademark   d) Design

2.A) A product patent is protected for a period of   (   )

   a) 10 years   b) 5 years   c) 20 years   d) 25 years

   B) Use of 'turmeric' as an anti-septic is a kind of   (   )

   a) Traditional knowledge   b) Patents
   c) Trademarks   d) Design

3. If the author is not known, the term of copyright in a literary work is _____

4. 'Tata' is an example of _____ trademark.

5. Compulsory license is generally granted in case of _____

6. TRIPS agreement came into force in India in the year _____

7. One of the exceptions to the infringement of copyright is _____

8. Match the following :   (5 x 1 = 5 Marks)

   i)   Term of Patent   a) 20 years
   ii) Term of Trade mark registered   b) Initially 10 years
   iii) Term of Geographical Indication   c) Initially 20 years
   iv) Term of Industrial Design registered d) 10 + 5 years
   v)   Term of Copyright   e) Life time of author + 60 years
                                                          after his death
                                                       f) 15 years
                                                       g) 25 years

9. <u>State True or False</u> :

    i)   IPRs can be kept in the private domain forever   (T/F)
    ii) TRIPS agreement recognizes IPRs as private rights   (T/F)
    iii) Author is the first owner of copyright   (T/F)
    iv) Novelty is essential for an invention to be patented   (T/F)
    v) A national emblem cannot be registered as a design   (T/F)

10. <u>Problems</u> :

    i) A scientist invented a device for smoke detection, which runs with the help of a computer programme. Can such device be patented.

    ii) 'Idly making' process in the public domain for the last few centuries is sought to be patented? Can the applicant succeed.

    iii) Can an Indian apply for an American Patent without actually going to USA? Explain.

    iv) A public librarian makes there copies of a rare book for library use. Has he committed any infringement of copyright?

    v) A company registered 'Vicks' as a trademark for cough tablets. Another company applies for registration of 'KICKs'as a trademark for similar cough tablets. Can it succeed?

PART – B (5 x 10 = 50 Marks)

11. Explain the meaning and nature of Intellectual Property.   Why should it be protected?

12. Explain the role played by WIPO in promotion and protection of IPRs.

13. Explain the procedure to register patents in India.

14. Discuss the rights and duties of proprietors of design.

15. Define a trademark. Explain the purpose of protecting a trademark.

16. Explain the nature, scope and subject-matter of copyright protection in India.

17. What is infringement of copyright? What are the exceptions thereto?

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B.E. 4/4 (IT) I – Semester (Main) Examination, Nov. / Dec. 2012

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. Define any three Data Mining functionalities. (3)

2. Define dimensions and Facts. (2)

3. What is the role of metadata repository in a data warehouse? (3)

4. Define principal component analysis. (2)

5. Define relative support and absolute support. (2)

6. List various kinds of association rules with example. (3)

7. State the principle of Cluster Analysis. (2)

8. State Raye's theorem. (2)

9. Define classifier accuracy measures. (3)

10. Define spatial mining and text mining. (3)

PART – B (50 Marks)

11. a) Explain the process of KDD with a neat diagram. (5)
    b) Explain data mining functionalities. (5)

12. a) Distinguish between OLAP and OLTP systems. (5)
    b) Explain Normalization Techniques in data transformation. (5)

13. a) Explain frequent item set generation using Apriori algorithm with an example and what are the disadvantages in this algorithms. (6)
    b) Explain different methods for improving the efficiency of Apriori algorithm. (4)

14. a) Write the algorithm for decision tree induction for classification. (6)
    b) Explain different approaches for tree pruning. (4)

15. a) Explain about statistical based and deviation based approaches for outlier detection. (6)
    b) Discuss about categorization of major clustering methods. (4)

16. a) Explain Text-mining Approaches. (6)
    b) Write the basic measures used for text retrieval. (4)

17. Write short notes on the following :
    a) Measures for classifier accuracy (3)
    b) Types of data in cluster analysis (4)
    c) Web usage Mining (3)

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B.**E. 4/4 (IT) I – Semester (Main) Examination, Nov. / Dec. 2012**

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 Globus and Legion.   (2)

2. Discuss about Legion implementation of core object with a figure.   (3)

3. List the differences between web architecture and web service architecture. (3)

4. Define single sign-on and delegation.   (2)

5. Draw the OGSA logging service architecture model.   (3)

6. Differentiate between stateful web service and stateless web service.   (2)

7. What is message style and encoding in GT3?   (2)

8. Discuss about system-level services offered in GT3.   (3)

9. Write about MPI-Scatter() and MPI-gatter() functions.   (3)

10. How is Error handling done in MPI?   (2)

PART – B (50 Marks)

11. Discuss about EUROGRID project and NASA Information Power Grid (IPG).   (10)

12. a) Differentiate between grid computing and any other computing technologies.   (4)

    b) Explain about GXA security standards.   (6)

13. a) Explain OGSI grid service and client programming model.   (6)

    b) Explain about various levels of policy abstraction.   (4)

14. Explain about GT3 Architecture model with a neat diagram.   (10)

15. Discuss about point-to point communication in MPI with a neat diagram.   (10)

16. a) Explain about distributed data access and replication in OGSA.   (5)

    b) Discuss the steps to access a web service.   (5)

17. a) Discuss about WS notification and WS-delegation.   (5)

    b) Explain parameter sweep algorithm with an example.   (5)

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B.E. 4/4 (IT) I – Semester (Main) Examination, Nov. / Dec. 2012

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. What is DAS system? (3)

2. What is lead compensation? (2)

3. What is seebeck effect? (2)

4. Briefly explain the characteristics of thermistor. (3)

5. What is photometry? (2)

6. What are the properties of laser light? (3)

7. What is 2-position mode operation? (3)

8. What are the characteristics of the instrumentation system? (2)

9. What is data logging system? (3)

10. What are the characteristics of digital data? (2)

PART – B (50 Marks)

11. a) Explain the principles of analog signal conditioning. (7)
    b) The resistors in a bridge are given by R1 = R2 = R3 = 120 and R4 = 121 .
      If the supply is 10.0V. Find the voltage offset. (3)

12. a) Explain about level sensors. (5)
    b) Explain about accelerometer principles. (5)

13. a) Explain about photo emissive detectors. (5)
    b) Explain about pneumatic actuators. (5)

14. a) Explain about the PLC operation. (4)
    b) Explain about the ladder diagram elements briefly with an example. (6)

15. a) Explain different composite controller modes. (5)
    b) Explain about Zieglar-Nicholos method, of controllers turning. (5)

16. a) Explain different interlocking system in discrete control systems. (5)
    b) What is multivariable control? Explain in detail. (5)

17. Write short notes on the following :
    a) I/O scan mode (3)
    b) Thermocouples (3)
    c) Flow sensors (4)

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