****

**STUDENT HAND BOOK**

**BACHELOR OF TECHNOLOGY**

**SEMESTER-7TH**

**STUDY SCHEME-2011**

**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING**

**ASRA COLLEGE OF ENGINEERING & TECHNOLOGY, BHAWANIGARH**

**STUDY SCHEME**

**PUNJAB TECHNICAL UNIVERSITY**

**SEVENTH SEMESTER**

****

****

**AUTHORS-**

*Syllabus*

**BTCS 701 Artificial Intelligence**

**Module1**: Introduction- What is intelligence? Foundations of artificial intelligence (AI).

History of AI; Problem Solving- Formulating problems, problem types, states and operators, state space, search strategies.

**Module2:** Informed Search Strategies- Best first search, A\* algorithm, heuristic functions, Iterative deepening A\*(IDA), small memory A\*(SMA); Game playing-Perfect decision game, imperfect decision game, evaluation function, alpha-beta pruning

**Module3:** Reasoning-Representation, Inference, Propositional Logic, predicate logic (first order logic), logical reasoning, forward chaining, backward chaining; AI languages and tools - Lisp, Prolog, CLIPS

**Module4:** Planning- Basic representation of plans, partial order planning, planning in the blocks world, hierarchical planning, conditional planning, representation of resource constraints, measures, temporal constraints

**Module5:** Uncertainty - Basic probability, Bayes rule, Belief networks, Default reasoning, Fuzzy sets and fuzzy logic; Decision making- Utility theory, utility functions, Decision theoretic expert systems.

**Module 6:** Inductive Learning - decision trees, rule based learning, current-best-hypothesis search, least-commitment search , neural networks, reinforcement learning, genetic algorithms; Other learning methods - neural networks, reinforcement learning, genetic algorithms.

**Module7:** Communication - Communication among agents, natural language processing, formal grammar, parsing, grammar

 **Suggested / Readings & Books**

 **1. Stuart Russell and Peter Norvig. Artificial Intelligence – A Modern Approach, Pearson Education Press,2001.**

**2. Kevin Knight, Elaine Rich, B. Nair, Artificial Intelligence, McGraw Hill, 2008.**

**3. George F. Luger, Artificial Intelligence, Pearson Education, 2001.**

**4. Nils J. Nilsson, Artificial Intelligence: A New Synthesis, Morgan Kauffman, 2002.**

**BTCS 702 Theory of Computation**

**Objectives:** To give the students knowledge of number of areas in theoretical computer science and theirinterconnections.

*Module 1*: Basics of Strings and Alphabets

*Module2*: Finite Automata – DFA, transition graphs, regular languages, non-deterministic FA, equivalenceof DFA and NDFA

*Module3*: Regular grammars, regular expressions, equivalence between regular languages, properties ofregular languages, pumping lemma.

*Module4*: Context Free Languages – Leftmost and rightmost derivation, parsing and ambiguity, ambiguityin grammar and languages, normal forms

*Module5*: Pushdown Automata – NDPDA, DPDA, context free languages and PDA, comparison ofdeterministic and non-deterministic versions, closure properties, pumping lemma for CFL

*Module6*: Turing Machines, variations, halting problem, PCP

*Module7*: Chomsky Hierarchy, LR(k) Grammars, properties of LR(k) grammars, Decidability andRecursively Enumerable Languages

 **Suggested Readings/Books**

1. K.L.P. Mishra and N. Chandrasekaran, **“Theory of Computer Science, Third Edition”**, PHI

Learning Private Limited, 2011.

2. John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, **“Introduction to Automata Theory**”,

Languages and Computation, Pearson Education.

3. M. Sipser, **“Introduction to the Theory of Computation”**, Second Edition, Cengage Learning.

4. K. V. N. Sunitha , N. Kalyani, **“Formal Languages and Automata Theory”**, McGraw-Hill,

2010.

5. Stephen Wolfram, **“Theory and Applications of Cellular Automata”**, World Scientific, 1986.

6. G.E. Revesz, **“Introduction to Formal Languages”**, Dover Publications, 1991.

7. M. A. Harrison, **“Introduction to Formal Language Theory”**, Addison-Wesley, 1978.

8. R.K. Shukla,**” Theory of Computation”**, Cengage Learning.

**BTCS 907 Software Project Management**

**Objective-** Software development is a complex process involving such activities as domain analysis, requirements specification, communication with the customers and end-users, designing and producing different artifacts, adopting new paradigms and technologies, evaluating and testing software products, installing and maintaining the application at the end-user's site, providing customer support, organizing end-user's training, envisioning potential upgrades and negotiating about them with the customers, and many more. The proposed subject will take students through the various processes involved in project management.

***Module1****:* Project Evaluation and Planning - Activities in Software Project Management, Overview Of Project Planning, Stepwise planning, contract management, Software processes and process models. Cost Benefit Analysis, Cash Flow Forecasting, Cost-Benefit Evaluation Techniques, Risk Evaluation. Project costing, COCOMO 2, Staffing pattern, Effect of schedule compression, Putnam‟s equation, Capers Jones estimating rules of thumb, Project Sequencing and Scheduling Activities, Scheduling resources, Critical path analysis, Network Planning, Risk Management, Nature and Types of Risks, Managing Risks, Hazard Identification, Hazard Analysis, Risk Planning and Control, PERT and Monte Carlo Simulation techniques.

***Module2:***Monitoring And Control- Collecting Data, Visualizing Progress, Cost Monitoring, review techniques, project termination review, Earned Value analysis, Change Control, Software Configuration Management (SCM), Managing Contracts, Types Of Contracts, Stages In Contract Placement, Typical Terms of A Contract, Contract Management and Acceptance.

***Module3:*** Quality Management and People Management- Introduction, Understanding Behavior,

Organizational Behavior, Selecting the Right Person for the Job, Motivation, The Old man– Hackman Job Characteristics Model, Working in Groups, Organization and team structures, Decision Making, Leadership, Organizational Structures, Stress, Health And Safety. ISO and CMMI models, Testing, and Software reliability, test automation, Overview of project management tools.

**Suggested Readings/Books**

1. Bob Hughes, Mike Cotterell, “Software Project Management”, Tata McGraw Hill. (2009)

2. Royce, “Software Project Management”, Pearson Education. (2005).

3. Robert K. Wysocki, “Effective Software Project Management”, Wiley.(2006)

4. Ian Sommerville, Software Engineering, Seventh Edition, Pearson Education.

5. R.S. Pressman, Software Engineering: A Practitioner's Approach, Sixth Edition, Tata McGraw-Hill.

6. Kassem, Software Engineering, Cengage Learning.

**BTCS 916 Enterprise Resource Planning (Elective –III)**

**ERP AND TECHNOLOGY:** Introduction – Related Technologies- Business Intelligence- E-Commerce and E-Business- Business Process Reengineering- Data Warehousing – Data Mining – OLAP – Product Life Cycle Management – SCM – CRM(10)

**ERP IMPLEMENTATION** : Implementation Challenges- Strategies – Life Cycle – Pre-implementation Tasks- Requirements Definition – Methodologies- Package Selection- Project Teams- Process Definitions – Vendors and Consultants – Data Migration – Project Management – Post Implementation Activities(10)

**ERP IN ACTION AND BUSINESS MODULES:** operation and Maintenance – Performance – Maximizing the ERP System – Business Modules- Finance- Manufacturing –Human Resources- plant Maintenance, Materials management- Quality Management –Marketing – Sales, Distribution and Service (8)

**ERP MARKET:** Marketplace- Dynamics- SAP AG- Oracle –Peoplesoft- JD Edwards- QAD Inc-SSA Global- Lawson Software- Epicor- Intutive (9)

**ERP APPLICATION:** Enterprise Application Integration – ERP and E Business – ERP II- Total Quality Management- Future Directions- Trends in ERP (6).

**Suggested Readings/Books**

1. Alexis Leon, “ERP DEMYSTIFIED”, Tata McGraw Hill, Second Edition, 2008.

2. Mary Sumner, “Enterprise Resource Planning”, Pearson Education, 2007.

3. Jim Mazzullo,”SAP R/3 for Everyone”, Pearson,2007.

4. Jose Antonio Fernandz, “The SAP R /3 Handbook”, Tata McGraw Hill, 1998.

5. Biao Fu, “SAP BW: A Step-by-Step Guide”, First Edition, Pearson Education, 2003

 **BTCS 701 Artificial Intelligence**

**Assignment:1**

Q:1 Explain Intelligence & AI. How do you distinguish between the two?

Q:2 Briefly discuss atleast six areas of AI?

Q:3 How do we define a problem as state space search? Discuss with example

Q:4 What are the important characteristics of problem and type of problems?

Q:5 Discuss Search Strategies.

**Assignment:2**

Q:1 Distinguish between propositional logic & predicate Logic with suitable example**.**

Q:2 Define Modus Ponen’s rule in Prepositional logic.

Q:3 What is game playing?

Q:4 What are the limitations of predicate logic as a tool for knowledge representation? Illustrate with example.

Q:5 What is the use of heuristic Function?

**Assignment:3:**

Q:1 Distinguish between Forward chaining and backward chaining?

Q:2 Define partial order planning.

Q:3 What is difference & similarities between problem solving and planning?
Q:4 Explain the concept of planning with state space search using suitable example.

Q:5 Write short note on:

* Conditional planning

Temporal Constraints

**Assignment:4:**

Q:1 What is the need for probability theory in uncertainity?

Q:2 Explain the need of fuzzy set and fuzzy logic.

Q:3 Define the concept of Belief networks.

Q:4 What is an Expert system?

Q:5 Explain the concept of learning using decision trees.

**Assignment:5:**

Q:1 Write a short note on

* Reinforcement learning
* Genetic algorithm
* Neural Network
* NLP

Q:2 Discuss in detail about syntactic analysis (PARSING).

**BTCS 702 Theory of Computation**

**Assignment-1**

Q:1 Define finite Automation ?

Q:2 Define Strings, Alphabets, symbols?

Q:3 Explain Moore and Mealy machine. Difference between these two machines?

Q:4 Difference between DFA and NDFA ?

Q;5 Design a Finite automata that accept strings such that string contain exactly one over the alphabet 0 and 1 ?

Q:6 Design Finite automata that accept string such that every string end with 00.

 **Assignment-2**

Q:1Define regular expression in detail ?

Q:2 Write regular expression for the set of string of an equal number of 0’s and 1’s such that in every prefix the number of 0’s differ from number of 1’s.

Q:3 Write regular expression for the set of strings of 0 and 1 but it does not contain 101 as sub string.

Q:4 Difference between regular expression, regular set and finite automata.

Q:5 Construct NFA with ^ moves for regular expression:

 (0+1)\*.1(0+1)

**Assignment-3**

Q:1 Define grammar with example?

Q:2 Find language for grammar: S→a|Sb|ab?

Q:3 Write grammar for string α=a?

Q:4 Write a grammar over ∑=ab containing at least one occurrence of aa ?

Q:5 Write CFG for the language L={am+nbmcn/n , n>=0}.

Q:6 Explain the simplification of grammar with example ?

Q:7Explain GNF with Example ?

Q:8 Convert into CNF:

 S→aAbS

 A→aA|a

 B→bB|b.

Q:9 Convert into CNF:

 S→AB

 A→BS|b

 B→S

**Assignment-4**

Q:1 What are the closure properties of language ?

Q:2 What is KNF ?

Q;3 What are the re-write system?

Q:4 What is PDA ?

Q:5 Solve the examples:

 1. An BmA, m and n>=1

 2. An B2n, n>=1

 3. AmBmCm, m>=3

 4. AmBn , m>=n, m>=1

**Assignment-5**

Q:1 Define the Dych language ?

Q;2 Explain the properties of LL(K) and LR(k) grammar with example ?

Q;3 What are the cellular systems ?

Q:4Define Turing machine with example ?

Q:5 Design Turing machine for 1n 2n 3n n>=1

**Tutorial sheet-1**

1. Define properties of relation?
2. Closure properties ofrelation?
3. Define string, word, language?
4. Describe finite state machineand its importance.
5. What doyou mean by automate, explain finite automata.
6. Formal definition of finite automata?
7. Difference between finite automata and FSM?
8. Description of finite automation?
9. What do you mean bytransaction system?
10. Prove that for any transition function d (q,xy )=d(d(q,x),y)
11. Prove that if d(q,x) =d(q,yz) for all strings z in ∑+’
12. Consider the finite state machine whose transition function d is given by the table in the form of transition table here Q= { qo ,q1,q2, q3 } , ∑={0,1} ,F =q0

.give the entire sequence of states for the input string 110001

|  |  |
| --- | --- |
| State | Input |
|  0 1 |
| Q0 | Q2 | Q1 |
| Q1 | Q3 | Q0 |
| Q2 | Q0 | Q3 |
| Q3 | Q1 | Q2 |

1. What is NDFA? Explain with example?
2. Difference between DFA and NDFA .
3. Convert NFA TO DFA

M=({q0,q1},{0,1},δ,q0,{q1})

Where δ in figure:

|  |  |
| --- | --- |
| State |  Input |
|  0 1 |
| Q0 | {q0,q1} | {q1} |
| Q1 | ῤ | {q0,q1} |

16) ConvertNFA TO DFA ({P,Q,R,S},{0,1},δ,P,{S})

|  |  |
| --- | --- |
| State |  Input |
|  0 1 |
| P | p,q | p |
| Q | r | r |
| R | s |  |
| S | s | s |

17)What do you mean by € .What do you mean by €-closure of state? Explain with example

0 1 2

€€

Fig(1)

18) How to construct DFA from NFA with€ moves from fig(1)?

19) What do you mean by finite automata with output?

20) Explain the moore machine with example?

21) Mealy machine example?

22) Design mealy machine to find out 2’s complement of a given binary number?

**Tutorial sheet-2**

1. Define definition of regular expression.
2. Explain the various operations of reqular expression?
3. Describe the language consisting of all strings over∑={0,1) with at least 2 consecutive 0’s,using regular expression?
4. Represent the following languages using regular expression over ∑={0,1,2}-“any no. of ‘0’s followed by any no. of ‘1’s followed by any no.of’2’s.
5. If L(r)=set of all strings over ∑={0,1,2} such that atleast’0’ followed by at least one’1’ followed by at least one’2’ is there find regular expression’s’ representing this language.
6. Represent the language over ∑={a,b} will all strings starting and ending with ’a’ and any no. of ‘b’ in between.
7. If L(r)=set of all strings over ∑={0,1} ending with”011” then ,what is r?
8. Describe in simple English the language represented by the regular expressions=(1+10)\*
9. Represent the language over∑={0,1} containing all possible combinations of 0’s and 1’s but not having 0’s.
10. If r=ab\*a, describe L (r) in the form of set.
11. Show that ,(a.b)\*!=a\*.b\*.
12. If L(r)={a,c,ab,cb,abb,cbb,abbb……….}what is r?
13. If L(r)={aaa,aab,aba,abb,baa,bab,bba,bbb}find the regular expression r which represent above set?
14. Represent set of all words ∑ ={a,b} containing atleast one ‘a’ using regular expression.
15. Let r=(a+b)\*.a.(a+b)\*.a.(a+b)\*,describe the language L(r) represented byregularexpression’r’ using simple English.
16. If,r=b\*.a.b\*.(a+b)\*.describe L(r) in simple English.
17. Represent the language over∑ {a,b} having atleast one ‘a’ and atleast one ‘b’
18. Show that (a+b)\*= (a+b)\*+(a+b)\*
19. Represent the set of all strings of a’s and b’s containing atleast one combination of double letters using regular expression
20. If L(r) ={€,x,xx,xxx,xxxx,xxxxx} what is r?
21. Let L® = set of all strings of a’s and b’s in which the strings are either all b’s or else there is an ‘a’ followed by ‘b’ s .all containing €
22. For language consisting of all stings a’s and b’s without any combination of double letters , find out regular expresson which will represent it
23. Show that (a\*b\*)\*=(a+b)\*
24. Describe regular expression to N.F.A with € moves conversion
25. Draw N.F.A with€ moves for regular expression given as a a.(a+b)\* which represents the language consisting of strings of a’s and b’s starting with a
26. Draw N.F.A with € moves for the regular expression (a\*+b\*)
27. Convert D.F.A to regular expression

 a,b

1. Convert D.F.A to regular expression

 0,1

 0,1

1. Convert D.F.A to regular expression using Adren theorem

 1

 0

0

 1

30) Describe regular set and their closure properties ?

**Tutorial sheet-3**

Q;1 Define derivation with example ?

Q;2 Consider the following grammar:

S→aB|bA

A→a|aS|bAA

B→b|bS|aBB

With‘S’ as the starting symbol. Find left most and right most derivation for string “bbaaba”?

Q:3 Write a grammar for language represented by regular expression (a+b)\*.

Q:4 Write a grammar to generate the string containing no consecutive b’s and a’s can be consecutive ?

Q:5 Find the CFG for regular expression ab\*.

Q:6Give CFG for the following language:

 L={anbmanm,n>=1}

Q:7 write conditions for CNF with example ?

Q:8 Reduce the following grammar G to CNF

 G= S→aAD, A→aB|bAB, B→b, D→d.

Q:9 Construct a grammar in GNF equivalent to the grammar

 S→AA|a, A→SS|b

Q:10 Explain the Chomsky hierarchy of grammar with its types ?

**BTCS 907 Software Project Management**

**Assignment No:-1**

Q.1) Define contract management?

Q.2) Cost benefits evaluation techniques?

Q.3) Risk evaluation?

Q.4) COCOMO.

Q.5) Define project planning?

**Assignment No:-2**

Q.1) Explain risk management?

Q.2) PERT and MONTE CARLO simulation techniques.

Q.3) Explain types of risks.

Q.4) Putnam’s equation.

Q.5) Hazard identification and hazard analysis.

**Assignment No:-3**

Q.1) What is cost monitoring?

Q.2) S/W configuration management?

Q.3) Types of contract.

Q.4) what is collecting data?

Q.5) contract management and acceptance?

**Assignment No:-4**

Q.1) Define behavior?

Q.2) Explain motivation.

Q.3) Explain ‘selecting the right person for job’.

Q.4) Organizational behavior?

**Assignment No:-5**

Q.1) Write short note on leadership.

Q.2) Write short note on stress?

Q.3) Discuss ISO & CMMI model.

Q.4) Define Test automation.

Q.5) Describe Testing & S/W reliability

 **TUTORIAL NO.1**

Q.1) Define software engineering?

Q.2) What is cyclonic complexity? How to measure it?

Q.3) What is quality assurance plan?

Q.4) What is project scheduling?

Q.5) What are the objectives of software engineering ? explain.

Q.6) What are the various software products?

Q.7) Discuss the software engineering problems?

 **TUTORIAL NO.2**

Q.1) what is the purpose of software evaluation?

Q.2) Define prototyping?

Q.3) what is software technical review?

Q.4) Differentiate between error and failure?

Q.5) What is the life cycle of software development? Explain briefly.

Q.6) What are the stages involved in the software design?

Q.7) Write a note on risk management and need of analysis of quality system?

 **TUTORIAL NO.3**

Q.1) What is SPM?

Q.2) What is the importance of documentation of SPM?

Q.3) Define TQM.

Q.4) What is risk assessment?

Q.5) Explain in brief software design principles.

Q.6) What are the various controlling activities that support software management?

Q.7) What are salient features of ISO 9000 quality standards?

TUTORIAL NO. 4

Q.1) Why phases are important in software development?

Q.2) Brief the structure of quality assurance team?

Q.3) Explain in brief software design principles?

Q.4) How ISO is implemented ? Explain the procedure of it.

Q.5) How does a phase life cycle model assist software management.

 TUTORIAL NO.5

Q.1) What is software engineering problem?

Q.2) What is project scheduling?

Q.3) What is the function of test and evaluation team?

Q.4) Can a problem be corrected and still not reliable? explain.

Q.5) What is project scope management?

Q.6) Difference between error and failure?

**BTCS 916 Enterprise Resource Planning (Elective –III)**

**Assignment No:-1**

1. Discuss the E-commerce Architecture and its components in detail with the help of a diagram?
2. What are different types of market places for E-commerce?
3. Discuss how E-Commerce is helpful to business success?
4. Explain the -strategies e-businesses are using to create value for customers?
5. Explain the importance of brand names of e-business.
6. Explain how e-businesses are organizing themselves to compete

**Assignment No:-2**

1. Explain in brief data warehousing with suitable diagram?
2. Explain in brief data mining with suitable diagram?
3. Difference between data ware housing & data mining?
4. Explain in detail the benefits of the data warehousing?
5. Explain the time series algorithm in data mining?

**Assignment No:-3**

1. Explain in detail SCM?
2. Explain in detail CRM?
3. Explain in brief project management & define steps to manage a project?
4. Explain the data & data migration & write the Advantages?
5. Define the types of data migration in detail?

**Assignment No:-4**

1. Explain the Business Modules in detail?
2. Explain the quality management in detail?
3. What is marketplace and explain it in brief?
4. Explain the different Business module in brief?
5. Explain the advantages & disadvantages of quality management?

**Assignment No:-5**

1. Explain in Detail SAP, AG, Oracle in detail?
2. Explain in detail Lawson software?
3. Define the enterprise application integration?
4. Explain the features of Oracle?
5. Explain the purposes and the patterns of the enterprise application integration?

**Tutorial No:-1**

1. What do you mean by E-Commerce?
2. What do you mean by E-Business?
3. [What is meant by E-commerce channel?](http://en.docsity.com/answers/423607/what-is-meant-by-e-commerce-channel)
4. [How can we integrate E-commerce into traditional business techniques?](http://en.docsity.com/answers/423606/integrate-commerce-into-traditional-business-techniques)
5. [What are some E-Commerce Applications?](http://en.docsity.com/answers/1547/what-are-some-e-commerce-applications)
6. [What is customer to customer E-Commerce?](http://en.docsity.com/answers/1535/what-is-customer-to-customer-e-commerce)
7. [What is Peer-to-Peer E-Commerce?](http://en.docsity.com/answers/1542/what-is-peer-to-peer-e-commerce)
8. List and describe the major legal issues related to e-business.
9. Explain the importance of long-term customer relations in e-business.
10. Explain the importance of brand names of e-business
11. Describe how businesses are using data and new technologies to gain competitive advantages.
12. List what is important in motivating customers to take action (buy online, etc.).
13. Explain distribution in relationship to e-commerce.
14. Describe how the Internet and the World Wide Web have impacted e-commerce
15. Explain how you would measure the value of the web site

**Tutorial No:-2**

1. What is Data Warehousing?
2. What is Data Mining?
3. [What is Data warehousing?](http://careerride.com/Data-warehousing-defined.aspx)
4. [Explain the difference between data mining and data warehousing.](http://careerride.com/Data-warehousing-data-mining.aspx)
5. [What is an OLTP system and OLAP system?](http://careerride.com/Data-warehousing-OLTP-OLAP.aspx)

##### [Explain discrete and continuous data in data mining.](http://careerride.com/Data-warehousing-discrete-continuous.aspx)

##### Explain the difference between Data warehousing and Business Intelligence.

##### [What is Virtual Data Warehousing?](http://careerride.com/Data-warehousing-what-is-virtual-data.aspx)

##### [What is active data warehousing?](http://careerride.com/Data-warehousing-what-is-active-data.aspx)

##### [List down differences between dependent data warehouse and independent data warehouse](http://careerride.com/Data-warehousing-dependent-data-independent-data.aspx)?

##### [What is data modeling and data mining? What is this used for?](http://careerride.com/Data-warehousing-data-modeling-and-data-mining.aspx)

##### What is Data Mart?

##### [What is real time data-warehousing?](http://careerride.com/Data-warehousing-real-time.aspx)

##### What are fact tables and dimension tables?

##### [What is ETL process in data warehousing?](http://careerride.com/Data-warehousing-ETL-process.aspx)

##### **Tutorial No:-3**

1. Explain SCM?
2. Explain CRM?
3. What is a project?
4. Explain project Management?
5. What is Clustering?
6. Explain Data migration?
7. What tools and techniques are used in project management?
8. Write the Advantages of data migration?
9. Write the disadvantages of data migration?
10. Why the data migration is necessary?
11. Explain the functions of SCM?
12. Explain the importance of SCM?
13. Explain the importance of CRM?
14. Features of CRM?
15. Types of CRM?

**Tutorial No:-4**

1. What is business?
2. What are the business modules?
3. Benefits of the business module?
4. What do you mean by quality management?
5. Write Principles of the quality management?
6. Why the quality management is required?
7. Write the benefits of the quality management?
8. What do you mean by market?
9. What you mean by marketplace?
10. Write the types of marketplaces?
11. Explain the ssa global?
12. Why business modules are required?
13. Write the types of Quality management?
14. Write types of the Business module?
15. Disadvantage of the business module?

**Tutorial No:-5**

1. Write the Full form of SAP AG?
2. What do you mean by SAP AG?
3. Write the features of the SAP AG?
4. Write the full form of AG?
5. What is oracle?
6. Write the features of the oracle?
7. Write about the Lawson Software?
8. What do you mean by Enterprise?
9. Write about the purposes of Enterprise Application integration?
10. Write about integration purpose?
11. Write about Access purpose?
12. Write about lifetime purpose?
13. Name the technologies used in EAT?
14. Name the topologies used in EAT?
15. Benefits of EAT?

**LAB EXPERIMENT DESCRIPTION**

**ARTIFICIAL INTELLIGENCE**

1. Write a program to implementation of DFS

2. Write a program to implement BFS

3. Write a program to implement Traveling Salesman Problem

4. Write a program to implement Simulated Annealing Algorithm

5. Write a program to implement 8 puzzle problem

6. Write a program to implement Tower of Hanoi problem

7. Write a program to implement A\* Algorithm

8. Write a program to implement Hill Climbing Algorithm

9. To Study JESS expert system

10. To Study RVD expert system

**Department Teachers**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sno.** | **Name of Teacher** | **Contact no.** | **Email-id** |
| **1.** | **Er. Parvinder Singh** | **84377-00327** | **asrahodcse@gmail.com** |
| **2.** | **Er.Navjot Kaur** | **84277-52347** | **asracsef10@gmail.com** |
| **3.** | **Er. Mohit Kumar** | **98881-03368** | **asracsemk@gmail.com** |
| **5.** | **Er. RajnishKansal** | **98760-63764** | **asra.cse.rajnish@gmail.com** |
| **6.** | **Er. Manish Mittal** | **86999-90597** | **asratpo@gmail.com** |
| **7.** | **Er. Inderjeet Singh** | **86991-00160** | **asracseinder@gmail.com** |
| **8.** | **Er. Jasdeep Kaur** | **98729-76515** | **asrajasdeepcse@gmail.com** |
| **9.** | **Er. Sourav Garg** | **99158-48810** | **asracsesrv@gmail.com** |
| **10.** | **Er. Shaveta Sehgal** | **90414-38756** | **asra.cse.shaveta@gmail.com** |