KLS's Gogte Institute of Technology, Udyambag, Belgaum

**Department of Computer Science & Engineering**

**Internal Assessment Test I**

**Subject : ESIoT**
**Semester : VI**
**Max. Marks : 25**

**Div : A, B, C & D**

**Code : 18CS63**
**Date : 4/5/2022**
**Duration: 1 Hr.**

**Note: Answer any five, each question carries 5 marks**

1. List & Explain the characteristics of Embedded Computing Applications. **[L1,2,PO1, CO1]**
2. Explain the sample requirements form for the Washing Machine. **[L2,PO1, CO1]**
3. What is system integration? Explain the system integration process . **[L1,2,PO1, CO1]**
4. Explain with a diagram the internal RAM organization of 8051 microcontroller. **[L2,PO1, 12,CO1]**
5. Write an 8051 C program to send values from 00 – 99 to port P1. **[L3,PO2, CO2]**
6. Write an 8051 C program to toggle only bit P2.4 continuously & alternately for every ½ second without disturbing the rest of the bits of P2. **[L3,PO2, CO2]**
7. Write an 8051 C program to convert packed BCD 0X45 to ASCII and display bytes on P0 and P1. **[L3, PO2, CO2]**

**Signatures of scrutiny members :** J. Sharada M. Kori

KLS Gogte Institute of Technology, Belagavi

Department of Computer Science Engineering

Program: B.E (Computer Science Engineering)

Academic Year: 2021-22(EVEN SEM)

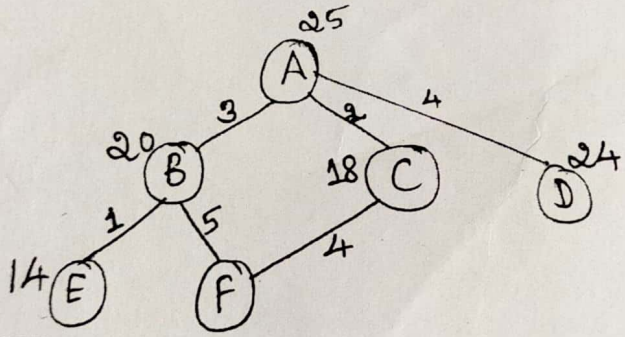
Semester: VI

Course Title: Artificial Intelligence

IA Test – I

Max. Marks: 25 Division: Common to ALL Duration: 1 Hr. Code: 18CS61 Date: 02-05-2022

Instructions:
1. Answers must be to the point and must be neatly written.
2. Answer any 5 questions, all questions carry equal marks. Answer according to the marks.

| Q. No. | | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1. | **Explain** Turing test and Chinese room argument. | 2 | 1 | 1 | 5 |
| 2. | Using the following information **build** a semantic net<br>Tom is a cat. Tom caught a bird. Tom is owned by John. Tom is ginger in color. Cats like cream. The cat sat on the mat. A cat is a mammal. A bird is an animal. All mammals are animals. Mammals have fur | 3 | 1 | 1, 2 | 5 |
| 3. | **Differentiate** between DFS and BFS. Give examples where these algorithms can be used. | 2 | 1 | 1 | 5 |
| 4. | **Write** the pseudocode for hill climbing. Mention its disadvantages. | 2 | 1 | 1 | 5 |
| 5. | **What** is Artificial Intelligence? **Explain** weak and strong methods. | 1,2 | 1 | 1 | 5 |
| 6. | **Apply** Best First Search for the following tree, show its tracing and find the solution. Start node: A ,Goal Node: F<br>  <br> | 3 | 1 | 1, 2 | 5 |
| 7. | **Apply** DFID algorithm and **solve** for the same to find the solution for the tree given above (Refer the tree in Q. No. 6). Show output for each level. Compute the total number of nodes to be examined. | 3 | 1 | 1, 2 | 5 |

| Staff in Charge/ Module Coordinator (Name and Signature) | IQAC Team (Name and Signature) | Scrutinizer (Name and Signature) |
|---|---|---|
| Prof. Gajendra Deshpande | | |
| Prof. Veena Kangralkar | | |
| Prof. Namitha Bhat | 30/4/22 | (Sharada M. Kori) |
| Prof. Prashant Niranjan | | |



Note: L (Level), CO (Course Outcome), PO (Programme Outcome), M (Marks)

KLS GogteInstitute of Technology, Belagavi

Department of Computer Science Engineering — Academic Year: 2021-22(EVEN SEM)

Program: B.E (Computer Science Engineering) — Semester: VI

IA Test – I

Course Title: COMPILER DESIGN — Code: 18CS62

Max. Marks: 25 marks — Duration: 1Hr — Date: 02/05/2022

Instructions:
1. Answer **ANY FIVE questions** and each question carries five marks.
2. Indicate**Proper margin and the Q.No. number** before writing the answer.
3. l the details on the front Page of the **Blue Book**

| Q. No. | | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1 | Explain with a neat diagram the phases of a Compiler. | 2 | 1 | 1 | 5 |
| 2 | Define lexemes, Pattern, and tokens . Group the given C program statement into Lexemes , Pattern and Tokens.<br><br>printf(" Total m= %d\n", score); | 2 | 1 | 1 | 5 |
| | | | | | |
| 3 | Define Regular definition. Construct the transition diagram to recognize the tokens a)Identifier b) unsigned number | 2 | 1 | 3 | 5 |
| 4 | Define Left Recursive grammar. Eliminate Left Recursion from the following grammar.<br>S → Aa \| b  A→Aa \| Sd \| f | 2 | 2 | 3 | 5 |
| 5 | Given the grammar<br>S→S+S \| SS \| ( S ) \| S* \| a<br>a. Write Leftmost Derivation , Rightmost Derivation and Parse Trees for the string (a+a)*a<br>b. Identify whether the grammar is ambiguous or not for the input string (a+a)*a | 3 | 2 | 3 | 5 |
| 6 | Write an algorithm to Left Factor a Grammar?Apply the algorithm and LeftFactor the following grammar.<br>E→T+E \| T  T→int \| int * T \| ( E ) | 3 | 2 | 3 | 5 |
| 7 | Design a Lexical Analyzer in C++ to recognize the stream of tokens of C identifiers. Assume the suitable C++ functions to read the character, failure and retract(if necessary) operations. | 3 | 1 | 3 | 5 |

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
II - INTERNAL ASSESSMENT

Semester: 6
Subject: CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN VALUES (18CS69)
Date: 18/06/2022
Max Marks: 25

*Answer any 5 question(s)*

| Q. No | | Marks | CO | BT/ CL |
|---|---|---|---|---|
| 1 | What are the senses of engineering ethics? | 5 | CO2 | L1 |
| 2 | What is moral dilemma? List out the steps to solve moral dilemma. | 5 | CO2 | L2 |
| 3 | Explain the roles and responsibilities of the manager in detail | 5 | CO2 | L2 |
| 4 | Compare the Kohlberg and Gilligan moral development theories. | 5 | CO2 | L3 |
| 5 | Explain the limitations of code of ethics. | 5 | CO4 | L2 |
| 6 | List out the different types of responsibilities. Explain any one in detail. | 5 | CO2 | L1, L2 |
| 7 | Write a note on computer ethics. | 5 | CO4 | L1 |

KLS GogteInstitute of Technology, Belagavi

Department of Computer Science Engineering | Academic Year: 2021-22(EVEN SEM)

Program: B.E (Computer Science Engineering) | Semester:VI

IA Test – II

Course Title:COMPILER DESIGN | Code: 18CS62

Max. Marks:25 marks | Duration: 1Hr | Date: 13/06/2022

Instructions: 1. Answer ANY FIVE full questions and each question carries five marks.

| Q. No. | | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1 | Define FIRST and FOLLOW set symbols. Compute FIRST and FOLLOW set symbols for the following grammar<br>S→aAB \| bA \| €<br>A→aAb \| €<br>B→bB \| € | 1 | 2 | 2,3 | 5 |
| 2 | Construct Predictive Parsing table for the (same Q.No 1) grammar and check whether the input string "aabb" accepted or not by the parser<br>S→aAB \| bA \| €<br>A→aAb \| €<br>B→bB \| € | 3 | 2 | 3 | 5 |
| 3 | Define Handle and Handle Pruning.Consider the following grammar ,indicate the handlefor the string "**abbcde**" using right sentential form.<br><br>S→aABe<br>A→Abc \| b<br>B→ d | 2 | 3 | 1,3 | 5 |
| 4 | Explain with a neat sketch the model and Algorithm of LR parser | 2 | 3 | 1 | 5 |
| 5 | Construct LR(0) items for the following grammar<br>A→( A ) A \| a \| b \| € | 3 | 3 | 1,2 | 5 |
| 6 | Construct SLR(1) parsing table for the following grammar<br>S→AaAb \| BbBa<br>A→€<br>B→€ | 3 | 3 | 3 | 5 |
| 7 | Apply the algorithm to find the canonical sets of LR(1) items for the grammar<br>S→L=R<br>S→R<br>L→*R<br>L→id<br>R→L | 3 | 3 | 5 | 5 |

KLS Gogte Institute of Technology, Belagavi

Department of Computer Science Engineering
Program: B.E (Computer Science Engineering)

Academic Year: 2021-22(EVEN SEM)
Semester: VI

IA Test - II

Course Title: Artificial Intelligence
Max. Marks: 25 Division: Common to ALL Duration: 1 Hr.

Code: 18CS61
Date: 13-05-2022

Instructions:
1. Answers must be to the point and must be neatly written.
2. Answer any 5 questions, all questions carry equal marks. Answer according to the marks.

| Q. No. | | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1. | Explain Ant Colony Optimization with an example. | 2 | 2 | 1 | 5 |
| 2. | Solve the below given data of fractional knapsack problem using profit by weight approach.<br>Objects: 1 2 3 4 5 6 7<br>Profit: 5 10 15 7 8 9 4<br>Weight: 1 3 5 4 1 3 2<br>Total given weight is 15 kg and n=7. | 3 | 2 | 1, 2 | 5 |
| 3. | Explain the steps of Find S algorithm for the below given training data to find the final hypothesis. | 2 | 3 | 1 | 5 |
| 4. | Define Minimax. Write the Minimax function steps to provide the best available score for a given node. | 2 | 2 | 1 | 5 |
| 5. | Describe Decision tree induction and draw a decision tree for determining whether or not a film will be a box office success. | 2 | 1 | 1 | 5 |
| 6. | Explain Multilayer neural network with an example diagram and also write why backpropagation is required. | 2 | 1 | 1, 2 | 5 |
| 7. | Construct KSOM to cluster for a given vector X1 = [ 0 0 1 1 ]. Number of clusters to be formed are 2 with a learning rate of 0.5. | 3 | 3 | 1, 2 | 5 |

| Example | Citations | Size | InLibrary | Price | Editions | Buy |
|---|---|---|---|---|---|---|
| 1 | Some | Small | No | Affordable | Many | no |
| 2. | Many | Big | No | Expensive | One | Yes |
| 3 | Some | Big | Always | Expensive | Few | No |
| 4 | Many | Medium | No | Expensive | Many | Yes |
| 5 | Many | Small | No | Affordable | Many | yes |

| Staff in Charge/ Module Coordinator (Name and Signature) | IQAC Team (Name and Signature) | Scrutinizer (Name and Signature) |
|---|---|---|
| Prof. Gajendra Deshpande<br>Prof. Veena Kangralkar<br>Prof. Namitha Bhat<br>Prof. Prashant Niranjan | | (Sharada M. Kori) |

KLS Gogte Institute of Technology, Belgaum
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I - INTERNAL ASSESSMENT

Semester: 6
Subject: CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN VALUES (18CS69)

Date: 05 May 2022
Time: 03:30 PM - 04:30 PM

Max Marks: 25

*Answer any 5 question(s)*

| Q.No | | Marks | CO | BT/CL |
|---|---|---|---|---|
| 1 | Bring out the differences between morality and ethics. | 5 | CO2 | L2 |
| 2 | What is Virtue? List any 4 civic duties and civic rights. | 5 | CO2 | L2 |
| 3 | Honesty is the best Policy. Justify your answer in detail | 5 | CO1, CO2 | L3 |
| 4 | List out the principles of respecting others. Explain any one in detail. | 5 | CO1 | L2 |
| 5 | Write the short notes for the following-<br>1. Courage 2. Valuing Time | 5 | CO2 | L2 |
| 6 | List out the challenges faced by the employee in the work place. Explain any one in detail | 5 | CO2 | L3 |
| 7 | Explain How the spirituality is promoted in the workplace? | 5 | CO2 | L3 |

KLS Gogte Institute of Technology, Belagavi

Department of Computer Science & Engineering
Program: B.E (Computer Science & Engineering)

Academic Year: 2021-22 (EVEN SEM)
Semester: VI

## IA Test – II

Course Title: Embedded Systems and IoT
Code: 18CS63

Max. Marks: 25 (Part B: 25 Marks)
Duration: 1 Hr. 15 Mins.
Date: 14/06/2022

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Instructions:
1. Part B: Answer any five full questions.
2. Assume any missing data suitably.

| Q. No. | PART B | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1. | Develop an 8051 'C' program to toggle only pin P1.0 continuously every 500ms. Use **Timer 0, mode 2 (8-bit auto-reload)** to create the delay. Assume XTAL= 11.0592 MHz | 3 | 2 | 2 | 5 |
| 2. | Assume that a 1-Hz external clock is being fed into pin T1 (P3.5). Develop an 8051 'C' program for **Counter 1 in Mode 1 (16-bit)** to count the pulses and display the state of the TH1 and TL1 registers on P1 and P2, respectively. | 3 | 2 | 2 | 5 |
| 3. | Develop an 8051 'C' program to transfer the message **"GIT" serially at 4800 baud, 8-bit data, and 1 stop bit**. Do this continuously. Assume XTAL=11.0592 MHz | 3 | 2 | 2 | 5 |
| 4. | Interface DAC 0800 with 8051 Microcontroller and develop an Embedded 'C' program to generate the rectangular waveform with **85% duty cycle** on P0. Assume XTAL= 11.0592 MHz and T=100ms. | 3 | 3 | 2 | 5 |
| 5. | Define IoT. List and explain the characteristics of IoT. | 1,2 | 4 | 5 | 5 |
| 6. | Explain the following communication models of IoT with a neat block diagram.<br>i. Request Response<br>ii. Publish Subscribe | 2 | 4 | 5 | 5 |
| 7. | Explain the IoT deployment level-1 with a neat diagram. | 2 | 4 | 5 | 5 |

**Signature of the Faculties**

**Signature of the Scrutinizer**