

2.5.1 Mechanism of internal assessment is transparent and robust in terms of frequency and variety

- Midterm Paper
- Student's Midterm Answer Sheet Evaluation
- Student's Practical Lab Records Evaluation
- Student's Assignment Answer

KTU Roll No- _____

ARYA GROUP OF COLLEGES
I MID TERM EXAMINATION 2018-19
8CS2A – DIGITAL IMAGE PROCESSING
(BRANCH – COMPUTER SCIENCE & ENGINEERING)

Max. Time: 2 Hrs

Max. Marks: 40

NOTE- Attempt all Four questions.

UNIT I

- Q. 1 (a) Explain the image sensing & image acquisition process. Explain the spatial & gray level resolution. (5)
- (b) How many types of sensor arrangements are used in image acquisition? Explain them. (5)

OR

- (a) What is image sampling system? (5)
- (b) Explain color image representation. (5)

UNIT I

- Q. 2 (a) Explain the concept of image representation. Differentiate the image compression and representation. (10)

OR

- (a) What is relation between RGB & HSI color models. (5)
- (b) Explain the human visual system. (5)

UNIT II

- Q. 3 (a) What do you mean by transformation of an image? (5)
- (b) Explain Histogram? What do you mean by histogram equalization? (5)

OR

- (a) Explain the image smoothing & how many types of filters are used for this? (5)
- (b) Define the histogram. Perform the histogram equalization and histogram stretching of the image represented as

Gray level	0	1	2	3	4	5	6	7
No. of pixels	100	90	85	70	0	0	0	0

(5)

UNIT II

- Q. 4 (a) Explain various types color models used in Digital image processing? (5)
- (b) Explain Wavelet Transformation. (5)

OR

- (a) Gray level 0 2 3 4 5 6 7 8
No. of pixels 100 90 85 70 0 0 0 0 (10)
- Perform histogram stretching so that the new image has a dynamic range of (0,8).

RTU Roll No- _____

ARYA GROUP OF COLLEGES
I MID TERM EXAMINATION 2018-19
6EE1A - MODERN CONTROL THEORY
(BRANCH - ELECTRICAL ENGINEERING)

Max. Time: 2 hrs.

Max. Marks: 40

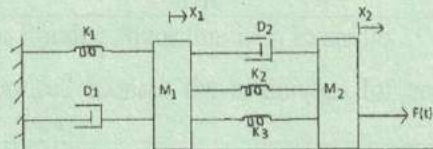
NOTE- Attempt all Four questions.

UNIT I

- Q. 1 (a) Determine the domain of the function $f(x) = \sqrt{4x - 8}$. (5)
- Write short notes on following with example-
- (b) i) Time variant and time invariant system ii) Causal and non-causal system (5)
 iii) Linear and nonlinear system

OR

- (a) Obtain the state space representation of the mechanical system shown in fig.-



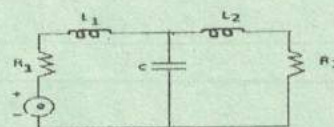
- (b) Determine whether the vectors (3, 1, 6), (2, 0, 4), and (2, 1, 4) are linearly dependent. If so, represent in combination form. (5)

UNIT I

- Q. 2 (a) For an electrical system explain state space equation with examples. (5)
- (b) Write short notes on following with example- (5)
 i) State variable, state vector ii) Domain and Range iii) Linearity

OR

- (a) Explain modern control theory versus conventional control theory? (5)
- (b) Draw the state modal of given electrical network. (5)
 Assume input- voltage source(e)
 Output- Voltage drop across R_2 resistance



UNIT II

- Q. 3 (a) Construct the state model in Jordans canonical form a system whose transfer function is given by: (5)

$$\frac{y(s)}{u(s)} = \frac{10}{(s+1)^2}$$
- (b) Explain cascade and parallel decomposition in brief.. (5)

OR

- (a) Express the following transfer function in state mode using parallel decomposition method. (5)

$$Y(s)/U(s) = (s+1)/(s+2)(s+3)(s+4)$$
- (b) Deduce state space model in to transfer function (5)

$$\dot{x}(t) = \begin{bmatrix} -1 & 0 & 1 \\ -3 & 0 & 0 \\ -5 & 1 & 0 \end{bmatrix} x(t) + \begin{bmatrix} 4 \\ 2 \\ 1 \end{bmatrix} u(t)$$

$$y(t) = [1 \ 0 \ 0] x(t)$$

UNIT II

- Q. 4 (a) Express the following transfer function in state mode using direct decomposition method. (5)

$$Y(s)/U(s) = (5s+6)/(s^3+2s^2+8)$$

Obtain phase variable representation for a system whose transfer function is given by:

$$Y(s)/U(s) = (s^3+4s^2+3s+10)/(s^3+2s^2+8)$$

ROLL No.

ARYA GROUP OF COLLEGES
I MID TERM EXAMINATION (VI Sem) 2017-18
6CE1A: THEORY OF STRUCTURES-II
(BRANCH- CIVIL ENGINEERING)

Max. Time: 2 hrs

Max. Marks: 40

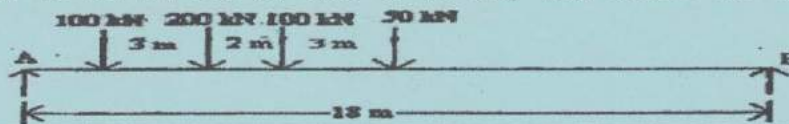
NOTE:- Attempt all questions.

UNIT-I

- Q. 1 (a) Four wheel loads of 6, 4, 8 and 5 kN cross a girder of 20m span from left to right followed by udl of 4kN/m and 4m long with the 6kN load leading. The spacing between the loads in the same order are 3m, 2m, and 2m. The head of the udl is at 2m from the last 5kN load. Using influence lines, calculate the S.F. and B.M at a section 8m from the left support when the 4 kN load is at center of the span. (10)

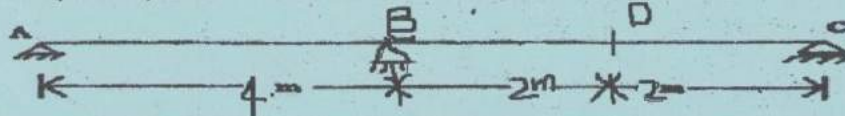
OR

- (b) A girder having a span of 18 m is simply supported at the ends. It is traversed by a train of loads as shown below, the 50 kN load leading. Find the maximum bending moment which occur (i) under the 200 kN load (ii) under 50 kN load, using influence line diagrams. (10)



UNIT-I

- Q. 2 (a) Using Muller Breslau Principle, determine the influence line for bending moment at D the middle point of span BC of a continuous beam show in fig compute the ordinate of 1 m interval. (10)

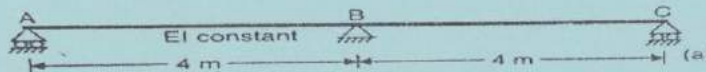


OR

- (b) A symmetrical three hinged circular arch has a span of 16m and a rise to the central hinge of 4m. It carries a vertical load of 16 kN at 4m from left end. Find (a) Horizontal Reaction, (b) the reactions at the supports, (c) B.M. of 6m from the left hand hinge, and (d) the maximum positive and negative B.M. (10)

UNIT-II

- Q. 3 (a) Determine the influence line for R_A for the continuous beam shown in figure. Compute the ordinate at every 1m interval. (10)



OR

- (b) A circular arch of 20 m span with rise of 4 m .It carries a point load of 100 kN at 5 m from left hand hinge. Calculate:- (i) Horizontal thrust at Arch (ii) Reaction at support (iii) Maximum positive and negative bending moment (iv) Draw BMD (10)

UNIT-II

- Q.4 (a) A beam ABC is supported at A, B and C and has hinge at D distant 3m from A. AB = 7m and BC = 10m. Draw the influence lines for: (i) Reactions at A, B, C. (ii) S.F. at a point just right of B. Hence if a udl of intensity 2 kN/m and length 3m travels from left to right, calculate above quantities for which I.L. are drawn. (10)

OR

I MID TERM EXAMINATION 2018-19
BIT34/6CS3: Theory of Computation
(BRANCH - CS/IT)

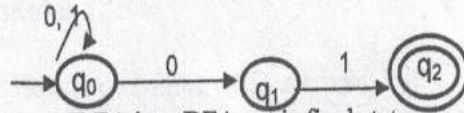
Max. Time:

Max. Marks: 40

NOTE- Attempt all Four questions.

UNIT I

- Q.1 (a) Differentiate between deterministic finite automata and non deterministic finite automata. Convert the following non deterministic transition system into deterministic system. (5)



Convert the given NDFA into DFA: s, t is final state

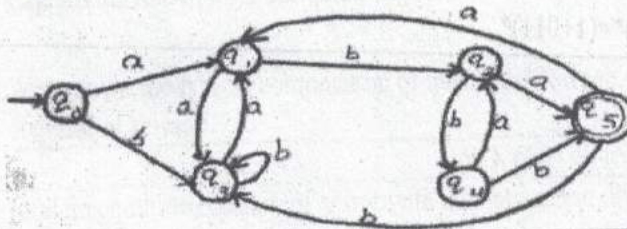
State	Input Symbol	
	0	1
→p	{p,q}	{p}
q	{r,s}	{t}
r	{p,r}	{t}
s	-	-
t	-	-

(b)

OR

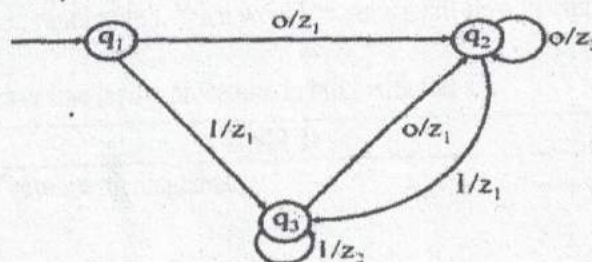
- (a) $M = (\{q_1, q_2, q_3, q_4\}, \{0, 1\}, \delta, q_1, \{q_3\})$ is non deterministic finite automation, where δ is given by
 $\delta(q_1, 0) = [q_2, q_3]$, $\delta(q_1, 1) = [q_1]$, $\delta(q_2, 0) = [q_1, q_2]$, $\delta(q_2, 1) = \emptyset$, $\delta(q_3, 0) = [q_2]$, $\delta(q_3, 1) = [q_1, q_2]$. Construct equivalent DFA. (5)

- (b) Minimize the following finite automata. Also write the procedure for minimization



UNIT I

- Q.2 (a) Construct a transition system which accepts set of string over $\epsilon = \{0, 1\}$ and is with even no. of zeros and even no. of ones. Also find the acceptability of string 110101. (5)
- (b) Consider a Mealy machine given by transition diagram. Construct a moore machine equivalent to this mealy machine. (5)



OR

- (a) Construct the DFA that accepts all the strings of 0's and 1's where:

Midterm Copy Answer Sheet



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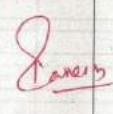
MID TERM TEST I/II/III



Name of Student Deependra Sharma RTU Roll No. 15EEEE011

Class / Sem/Branch Electrical / VIIth Sem / ITth Year Day & Date Saturday 8/16/3/18

Subject with code EHV (8EE1A) Invigilator's Signatures [Signature]

Question No.	1		2		3		4		5		Total Marks	Sign. of Examiner
	a	b	a	b	a	b	a	b	a	b		
Marks Obtained	4.5	4	5	4	5	5	3	3.5			34 40	
Max. Marks	5	5	5	5	5	5	5	5				

(Start to write From here)

Add more content making it in point form.



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MID TERM TEST I/II/III



Name of Student Aryan Pandey RTU Roll No. 18EEEE004

Class / Sem/Branch B.Tech / IVth / E.E. Day & Date Tuesday 3/12/19

Subject with code Power Generation Process (3EE3-54) Invigilator's Signatures [Signature]

Question No.	1 Part A					2 Part B					3 Part C				4		5		Total Marks	Sign. of Examiner			
	a	b	c	d	e	a	b	c	d	e	f	a	b	c	d	a	b	a			b		
Marks Obtained	12	2	2	12	2					2	4	2		4								22 40	
Max. Marks	2	2	2	2	2						4	4	4		7								

(Start to write From here)

Use this place for work.



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MID TERM TEST I/II/III



Name of Student Himanshu Gupta RTU Roll No. 15EAYEE020

Class / Sem/Branch IVth / 8th / EE Day & Date Saturday 4.16.03.2019

Subject with code EEF1A - EHV AC/DC transmission Invigilator's Signatures [Signature]

Question No.	1		2		3		4		5		Total Marks	Sign. of Examiner
	a	b	a	b	a	b	a	b	a	b		
Marks Obtained	4	4.5	4	-	4	5	4	3			29.5	<u>[Signature]</u>
Max. Marks	5	5	5	5	5	5	5	5			40	

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Add more content making it in point form

Follow the lecture Notes

Assignment Answer Sheet

Date
3/8/18



PAGE.....
DATE.....

UNIT-22

Q1 Explain 2-3-4 trees with example?

A 2-3-4 in a Computer Science, is a self balancing data structure. 2-3-4 tree are B-tree with $b=2$. every internal node has either 2, 3 or 4 children. 2-3-4 tree have similar properties as B-tree.

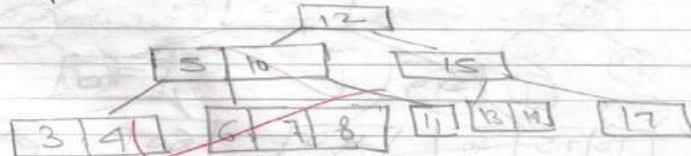
2-3-4 tree take $O(\log n)$ time for searching, inserting or deleting an element.

2-3-4 tree forms three types of nodes



- 2 node Contains 1 elements & 2 children
- 3 node Contains 2 elements & 3 children.
- 4 node Contains 3 elements & 4 children.

2-3-4 tree are searched tree in which each element must be greater or equal to any others to its left & in its left subtree.



Teacher's Signature.....

→ Unhappiness & Conflict
→ Weakening the Aspirations etc.

DATE: / /

PAGE NO.: 13

Continuously for their fulfilment.

Expectation Set on the basis of Pre-Conditioning

- Sensation is a feeling resulting from something that comes into contact with the body.
- We may develop a desire for a bike based on the way it 'looked'.

Q.6 What are the Programs for ensuring the health of the body? Explain.

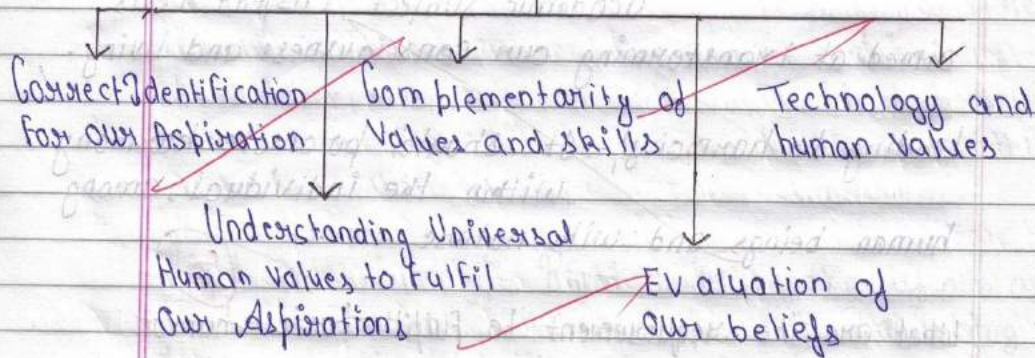
Ans Our present lifestyle and Conditionings are not very conducive to keep the body fit and therefore it is important to understand Sanyama and Swasthya correctly and maintain proper harmony with the body. As a proposal, we need to work for the following few things

1. To Understand and live with Sanyama
 2. To Understand the Self Organization of the body and ensure health of the body
-
1. To Understand and live with Sanyam
 - ⇒ It is the Self that the responsibility for proper nurturing, protection and right utilization of the body.
 - ⇒ The 'Self' should Understand the body is an instrument and has a limited life span and Undergoes a pattern of growth and decay.
 - ⇒ The 'Self' should also Understand the right Purpose for which this instrument has to be used

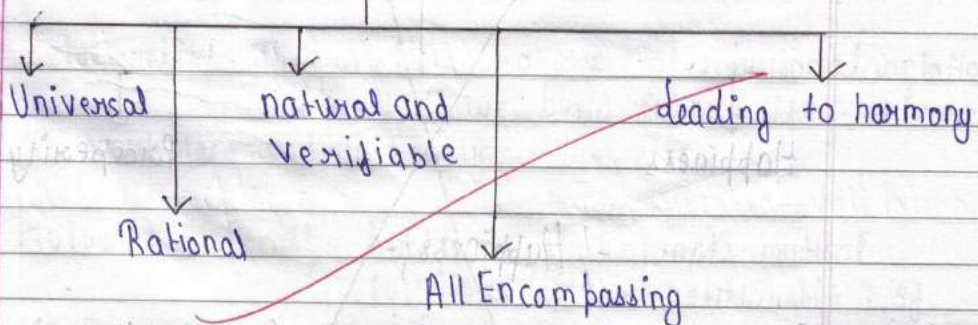
Q.2 Define Value education, write down the need and basic guidelines of Value education.

- Ans x It stands for the knowledge of important.
- * It include principle, ideal, fundamental Convection, behaviour etc.
 - * Its main purpose is character development.
 - * Its help in ones judgement of what is important in life.

! The need of Value education! -



Basic guideline of Value Education



ASSIGNMENT-1

UNIT-1



PAGE.....
DATE.....

Q1 Explain Huffman tree in detail. Suppose we are given the full table or letter freq.

a	b	c	d	e	f
1	2	3	4	5	6

Huffman Coding: -

Assign codes to characters such that length of the code depends on the relative freq. or weight of the corresponding characters.

Huffman codes are of variable length, and prefix free (no code is prefix of any other).

Any prefix free binary code can be

Huffman Coding tree or Huffman tree.

It is a full binary tree in which each leaf of the tree corresponds to a letter in the given alphabet.

Define the weighted path length of a leaf to be its weight times its depth. The Huffman tree is the binary tree with min. external path weight (i.e., the one with the



ARYA COLLEGE OF ENGINEERING & RESEARCH CENTRE

INDEX & EVALUATION REPORT

Student Name: Gayatri Ramesh

Group No.:

Name of lab with code: D.E Lab 3CS4-24

Student Name:- <u>Gayatri J. Patel</u>			Group No.:-		Name of lab with code:-											
S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge										Teacher's Initial with Date
						Attendance (6)	Preparation (10)	Performance (10)	Record (10)	Viva (10)	Extra work (4)	Total (50)				
1		To test digital IC by automatic digital IC trainer kit.	4 to 10	23/7/19	21/7/19	6	8	8	7	5	2	36	benson	28/8/19		
2		To study & verification of logic gates	11 to 18	5/8/19	5/8/19	6	8	9	8	8	4	43	benson	29/8/19		
3		Study of various combinational gates based on: AND/OR/NOT	19 to 27	9/8/19	9/8/19	6	7	7	7	9	4	40	benson	29/8/19		
4		To study & realize half & full adder using basic gates & NOR gates	28 to 34	22/8/19	22/8/19	6	8	8	9	8	3	42	benson	4/9/19		
5		To realize an SOP & POS expression	35 to 39	29/8/19	29/8/19	6	10	8	9	7	2	42	benson	12/9/19		
		Study of MUX & DEMUX combinational circuits	40 to 45	12/9/19	12/9/19	6	9	9	9	8	3	44	benson	19/9/19		
		Study of RS, JK & D flip flops	46 to 54	26/9/19	26/9/19	6	7	9	8	7	3	40	benson	27/9/19		

Cont.

Cont.



ARYA COLLEGE OF ENGINEERING & RESEARCH CENTRE

INDEX & EVALUATION REPORT

Student Name:- Prayashi Ramat

Group No.:-

Name of lab with code:- DE-3059-24

Student Name:-				Marks Awarded by Lab Faculty/Incharge											
S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
						+	-			+	-				
8		Study & perform binary to decimal smooth & 7 segment display	55 to 60	22/10/19	22/10/19	6		9	9	9		8	3	44	7/11/19
9		To realize a 4-bit ripple adder/subtractor using basic half adder/subtractor	61 to 65	7/11/19	7/11/19	6		9	9	9		9	3	45	14/11/19
10		Perform i/p/o/p operation on 11 i/p or parallel out register using clock	66 to 69	14/11/19	14/11/19	6		9	10	10		9	3	47	20/11/19
11		To study & construct a 4-bit binary counter & ring counter	70 to 73	14/11/19	14/11/19	6		9	10	10		9	4	48	20/11/19
12															
13															

Comp. checked

Percentage:-

Max. Marks:-

Marks Obtained:-

Percentage:-

30 marks for that turn.

10 marks



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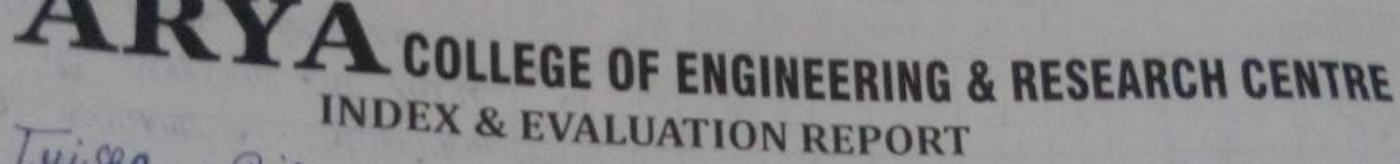
INDEX & EVALUATION REPORT

Student Name:- Trisha Bismal

Group No.:- -

Name of lab with code:- AA Lab (SCS4-23)

Name of lab with code:- AA Lab (SCS4-23)															
S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge								Teacher's Initial with Date	
						Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)		Total (50)
+	-	+	-												
1	1	WAP to implement binary search.	1-4	06/8/19	06/8/19	6		8	8	9		8	3	42	42 26/8/19
2	2	WAP to implement quick sort.	5-9	29/8/19	29/8/19	6		8	8	9		8	2	41	41 26/8/19
3	3	WAP to implement merge sort.	10-15	28/8/19	28/8/19	6		9	8	10		9	3	45	45 9/9/19
4	4	WAP to implement 0/1 knapsack problem	16-20	9/9/19	9/9/19	6		9	9	10		9	3	46	46 16/9/19
5	5	WAP to implement Dijkstra's algorithm.	21-24	9/9/19	9/9/19	6		10	10	10		9	3	48	48 2/10/19
6	6	WAP to find min cost of ST using Kruskal's algorithm.	25-29	16/9/19	16/9/19	6		10	10	9		8	3	46	46 2/10/19
		WAP to perform all pairs shortest path problem.	30-33	28/9/19	28/9/19	6		9	9	10		8	3	45	45 2/10/19



Name of lab with code:- 5C84-23

S. No.		Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge								Teacher's Initial with Date	
							Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	
							+	-			+	-				
8	8		NAP to implement depth First search.	34-37	28/9	28/9	6		9	9	9		9	3	45	28/9/19
9	9		NAP to solve 8-Queens problem using Back-Tracking.	38-41	14/10	14/10	6		9	9	10		9	3	46	14/10/19
10	6.2		NAP to implement Prim's algorithm.	42-44	14/10	14/10	6		9	9	10		8	3	45	14/10/19
11	10		NAP to implement BFS.	45-46	14/10	14/10	6		9	9	10		9	3	46	14/10/19
12																
13																

Note:- (1) If a student is absent on any turn, he/she is to be awarded minus 20 marks for that turn.
(2) If a student is present on a turn but not brought his Lab record he/she is to be awarded minus 10 marks.