



Global Group of Institutes

(Approved by AICTE, PCI and Affiliated to IKGPTU, Jalandhar)

SUPPORTING DOCUMENTS FOR 2.5.1

**Mechanism of Internal Assessment is Transparent and Robust In
Terms Of Frequency And Variety**



Samples of Internal Assessments

1. **Assignments:** Assignments submitted by students during their course.

Section - A

① Ques:- Define signed Binary Numbers.

Ans:- Signed binary number means that both positive and negative numbers may be represented. 1's complement number is formed by changing 1's into 0's and 0's into 1's.

Representation of Signed Binary Numbers:-

Signed numbers in binary can be represented in following three forms.

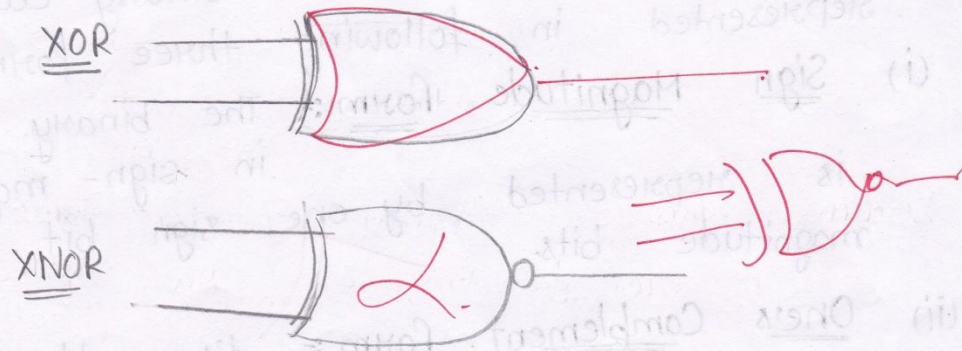
(i) Sign Magnitude form:- The binary number is represented by one sign bit and magnitude bits in sign-magnitude.

(ii) One's Complement form:- 1's complement of any binary number can be obtained by changing all 1's with 0's and all 0's with 1's.

(iii) Two's Complement form:- 2's complement is obtained by adding 1 to 1's complement of the binary number. example, the 2's complement

② Ques :- Difference between XOR gate and XNOR gate?

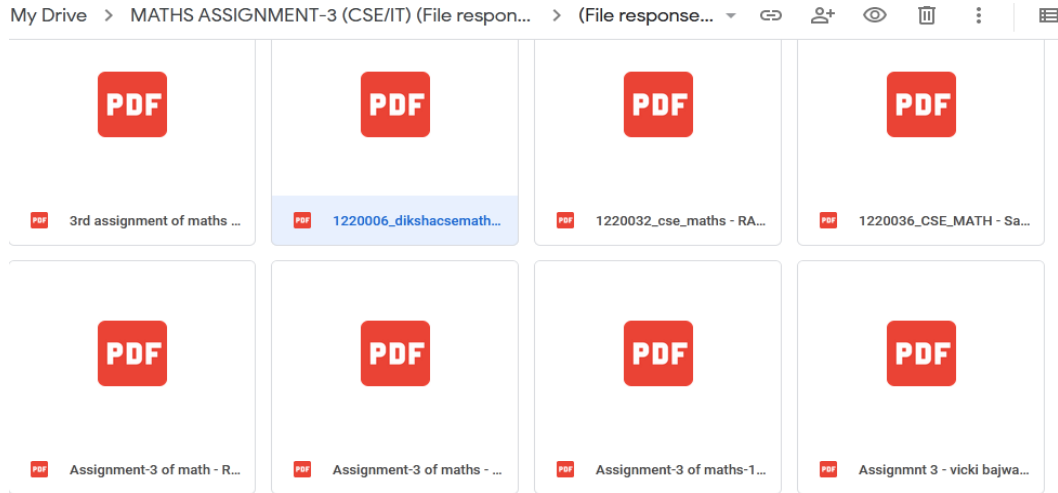
Ans :- A XNOR gate is an XOR gate whose output is inverted. As you can see, the only difference between these two symbols is that the XNOR has a circle on its output to indicate that the output is inverted. For this operation to work, the XOR gate must be used in combination with an AND gate.



③ Ques Design AND gate using NAND Gate?

Ans :- We can create an AND gate by using two NAND gates. The first NAND gate does what a NAND gate does: return LOW if both input are HIGH and returns HIGH if both inputs are anything else. Then the second NAND gate is configured as a NOT gate to

2. **Online Assignments:** Online Assignments are given to students. The screenshot of uploaded assignment submitted by the students is followed:





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3. **Sessionals:** Mid semester test conducted for assessment of students.

**GLOBAL GROUP OF INSTITUTES, AMRITSAR
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SUBJECT: DATA STRUCTURES (BTCS- 304)
SECOND - MST**

Time Allowed: 3Hours

Max Marks: 60

Instructions to candidate:

1. Attempt all questions from section A.
2. Attempt any *FOUR* questions from section B and any *TWO* questions from section C.

SECTION –A

(10x2=20 marks)

Q1. Answer the following questions:

- a. How Trees are represented in memory?
- b. Write down the applications of heaps?
- c. What is the complexity of insertion sort?
- d. Why binary search cannot be performed on a linked list.
- e. How pointers are used to manage address of memory?
- f. Write down the advantages of Linked List over arrays?
- g. What is undirected graph?
- h. Write use of heap sort.
- i. How time complexity of an algorithm is computed?.
- j. What is threaded binary tree?

SECTION –B

(4x5=20 marks)

Q2. Make a binary search tree by considering the following eight numbers:

50, 24, 38, 24, 67, 40, 60, 52.

Q3. Write an Algorithm to traverse a graph using Depth First Search

Q4. Build a heap H from the following list of numbers:

40, 65, 15, 48, 14, 50, 17, 22.

Q5. Explain Radix sort.

Q6. Give idea of hashing and its use as hashing function.

SECTION –C

(2x10=20 marks)

Q7. Write an algorithm to insert a new node at the end and start of Single Linked List.

Q8. What are the tree traversal techniques? Explain each with an example.

Q9. Write short note on :

- a) Quick sort
- b) AVL Trees

4. Group Discussion: Group Discussion conducted on different topics.



5. Presentation: Presentation given by the students.

Set Theory

A set in mathematics is a collection of well defined and distinct objects, considered as an object in its own right. Sets are one of the most fundamental concepts in mathematics.

The slide features a Venn diagram with three overlapping circles labeled A (pink), B (green), and C (blue). The regions are labeled: 'x' in the intersection of A and B, 'y' in the intersection of A and C, 'z' in the intersection of B and C, and 'o' in the intersection of all three sets.

REPRESENTATION OF SETS

TYPES OF REPRESENTATION OF SETS

- TABULAR OR ROSTER FORM
- SET-BUILDER OR RULE METHOD

The slide includes a flowchart where 'TYPES OF REPRESENTATION OF SETS' branches into 'TABULAR OR ROSTER FORM' and 'SET-BUILDER OR RULE METHOD'. The background features a landscape with mountains and a sunset.

- 6. Field Visit:** Field visit has its own importance in career of student who is pursuing professional degree. The objective of field visit is to provide them an insight regarding internal working of companies.







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7. **ERP Portal:** Attendance Record of Students is uploaded on ERP Portal.

<https://acadplus.in/gimet/>

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*Password for student is **student***

SIGN IN



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8. Academic Calendar: Academic Calendar is displayed before commencement of session

GLOBAL GROUP OF INSTITUTES, AMRITSAR						
ACADEMIC CALENDAR (ODD SEMESTER, 2020-21)						
DAYS	Aug	Sep	Oct	Nov	Dec	Jan
SAT	1		31 Jansam Divas Maha Rishi Valmik Ji			30
SUN	2					31
MON	3 Commencement of Classes/Students of 2nd/3rd year			1		
TUE	4	1		2		
WED	5	2		3	1	
THU	6	3	1	4	2	
FRI	7	4	2 Gandhi Jayanti	5	3	
SAT	8	5		6 END OF THEORY CLASSES	4	1 PTU Final Examination
SUN	9	6		7	5	2 PTU Final Examination
MON	10	7	5	8	6	3
TUE	11	8	6	9 MST-II	7	4 PTU Final Examination
WED	12 Jansam Ashram	9	7	10 MST-II	8	5 PTU Final Examination
THU	13	10	8	11 MST-II	9	6 PTU Final Examination
FRI	14	11	9	12 MST-II	10	7 PTU Final Examination
SAT	15 Independence Day	12	10	13 MST-II	11	8 PTU Final Examination
SUN	16	13	11	14 Diwali	12	9 PTU Final Examination
MON	17	14 MST-I	12	15 Vishwakarma Day	13	10
TUE	18	15 MST-I	13	16 MST-II	14	11 PTU Final Examination
WED	19	16 MST-I	14	17 MST-II	15	12 PTU Final Examination
THU	20	17 MST-I	15	18 MST-II	16	13 PTU Final Examination
FRI	21	18 MST-I	16	19 MST-II	17	14 PTU Final Examination
SAT	22	19 MST-I	17	20 MST-II	18	15 PTU Final Examination
SUN	23	20	18	21	19 Shahidi Divas Shri Guru Teg Bahadar Ji	16 PTU Final Examination
MON	24	21	19	22	20	17
TUE	25	22	20	23 INTERNAL PRACTICALS	21	18 PTU Final Examination
WED	26	23	21	24 INTERNAL PRACTICALS	22	19 PTU Final Examination
THU	27	24	22	25 INTERNAL PRACTICALS	23	20 BIRTHDAY OF GURU GOBIND SINGH Ji
FRI	28	25	23	26 INTERNAL PRACTICALS	24	21 PTU Final Examination
SAT	29	26	24	27 INTERNAL PRACTICALS	25 Christmas Day	22 PTU Final Examination
SUN	30	27	25 Dussehra	28	26 Preparatory Holidays	23 PTU Final Examination
MON	31	28	26	29	27 Preparatory Holidays	24
TUE		29	27		28 Preparatory Holidays	25 PTU Final Examination
WED		30	28		29 Preparatory Holidays	26 Practical Examination
THU			29		30 Preparatory Holidays	27 Practical Examination
FRI			30		31 Preparatory Holidays	28 Practical Examination
Working Days/ Month	20	17	21	4		29
						Total Working Days: 62

Notes: (a) Each Department will conduct 1-2 Guest Lectures in auditorium for all the students of all the semesters of their respective department and two industrial visits as per their convenience. Experts should be called from Reputed Institutes such as IITs/NITs or Industry.

(b) Makeup classes will be held during Preparatory Holidays.

(c) Repair, Service and Overhauling of all the pending classes and labs by Er. B.S. Retal and his team in the month of November, 2018.

(d) Numerical subject can be given more than three assignments as per the requirement.

(e) Departmental Specific and Institutional Specific activities will be incorporated by the respective 'Institutional Heads'.

(f) Common Group Events will be conducted on the same dates /period, as planned and mentioned.

Dr. M.S. Saini
(Campus Director)

Campus Director
Global Group of Institutes
Amritsar