

Calculation of Bloom's Score & Bloom's Index for the improvement of Quality in Direct Assessment Tools

The quality of internal semester question papers and assignments are assessed by the Module coordinators and course coordinator based upon the Blooms Taxonomy. The parameters of Blooms Taxonomy are converted into a continuous scale 0-10 as presented in the table given below:

Scale	0-2	3-4	5-6	7-8	9-10
Blooms Taxonomy level	Remembering (30%-Marks)	Understanding (30%-Marks)	Applying (30%-Marks)	Analyzing and Evaluating (10%-Marks)	Creating (High Level)

For each question in the internal test paper (Assignment) an appropriate score is assigned and the Bloom's Index (BI) is computed by taking the weighted average of all the questions in the paper (Assignment).

$$\text{Blooms Index}(BI) = \frac{\sum_{i=1}^n X_i * S_i}{\sum_{i=1}^n X_i}$$

Where 'n' are the number of questions in the Internal test paper / Assignment

'X_i' is the marks allocated for the ith question as per the assessment plan

'S_i' is the score allocated for the ith question as per the Blooms Taxonomy level

Table 2.4: Analysis of Learning Levels for Assignment Questions/Internal Question Paper

Code	Course	Faculty Name	Blooms Index	Attainment Level	Remarks of module coordinator on assignment levels
				4-6 <4- easy >6- difficult	

The internal question papers are checked and analyzed by the course advisor and presented to the module coordinator. The module coordinator analyzes the paper with respect to the coverage of

the syllabus, level of difficulty/ease in attempting the paper and the time frame required for solving the paper, thereby necessary suggestions if any are instructed to the course coordinator. This activity updated report having suggestions and remarks are submitted to the Program Co-ordinator and Head of the department. This process is laid down by the Program Audit Committee.

Question Marks(X_i)								
1	2	3	4(a)	4(b)	5(a)	5(b)	6(a)	6(b)
2	2	2	4	3	4	3	5	2
2	2	2	4	3	4	3	5	2
2	2	2	4	3	4	3	5	2

Blooms Score and Bloom's Index(BI) for the above Questions Marks

Blooms Score(S_i)									Bloom's Index(BI)
1	2	3	4(a)	4(b)	5(a)	5(b)	6(a)	6(b)	
2	2	2	2	2	2	2	2	2	2
10	10	10	10	10	10	10	10	10	10
4	5	4	6	2	5	8	9	2	5.518519

Action Words for Bloom's Taxonomy					
Knowledge	Understand	Apply	Analyze	Evaluate	Create
define	explain	solve	analyze	reframe	design
identify	describe	apply	compare	criticize	compose
describe	interpret	illustrate	classify	evaluate	create
label	paraphrase	modify	contrast	order	plan
list	summarize	use	distinguish	appraise	combine
name	classify	calculate	infer	judge	formulate
state	compare	change	separate	support	invent
match	differentiate	choose	explain	compare	hypothesize
recognize	discuss	demonstrate	select	decide	substitute
select	distinguish	discover	categorize	discriminate	write
examine	extend	experiment	connect	recommend	compile
locate	predict	relate	differentiate	summarize	construct
memorize	associate	show	discriminate	assess	develop
quote	contrast	sketch	divide	choose	generalize
recall	convert	complete	order	convince	integrate
reproduce	demonstrate	construct	point out	defend	modify
tabulate	estimate	dramatize	prioritize	estimate	organize
tell	express	interpret	subdivide	find errors	prepare
copy	identify	manipulate	survey	grade	produce
discover	indicate	paint	advertise	measure	rearrange
duplicate	infer	prepare	appraise	predict	rewrite
enumerate	relate	produce	break down	rank	role-play
listen	restate	report	calculate	score	adapt
observe	select	teach	conclude	select	anticipate
omit	translate	act	correlate	test	arrange
read	ask	administer	criticize	argue	assemble
recite	cite	articulate	deduce	conclude	choose
record	discover	chart	devise	consider	collaborate
repeat	generalize	collect	diagram	critique	collect
retell	give examples	compute	dissect	debate	devise
visualize	group	determine	estimate	distinguish	express
	illustrate	develop	evaluate	editorialize	facilitate
	judge	employ	experiment	justify	imagine
	observe	establish	focus	persuade	infer
	order	examine	illustrate	rate	intervene
	report	explain	organize	weigh	justify
	represent	interview	outline		make
	research	judge	plan		manage
	review	list	question		negotiate
	rewrite	operate	test		originate
	show	practice			propose
	trace	predict			reorganize
	transform	record			report
		schedule			revise
		simulate			schematize
		transfer			simulate
		write			solve
					speculate
					structure
					support
					test
					validate

Muffakham Jah College of Engg. & Tech.

Civil Engg. Dept

COURSE HANDOUT

Course Code: CE353

Course Title: **THEORY OF STRUCTURES – II**

Class: **3rd Year Civil (A & B) - II Sem**

Contact Hours per week: **4 Theory + 2 Tutorial**

Course Coordinator: **Mr. Mohd Nazim Raza & Mr. Syed Yousuf Hussaini**

Module Coordinator: **Mr. Siraj Ul Haq**

Course Coordinator Phone: **7207676286, 9703672110**

Course Coordinator Email: nazim.raza@mjcollege.ac.in, Yousuf.hussaini@mjcollege.ac.in

Course Coordinator Location: **Room No: 4001-A**

Course Coordinator Availability:

Pre-requisite Courses and assumed knowledge& capabilities

To successfully complete this course, students should have the knowledge of basic principles of force –displacement behavior of structure. They must possess the ability to find the B.M, S.F, slope and deflection of structures subjected to static loading, using different methods of analysis like Moment Distribution method, Slope Deflection method and Strain energy methods.

Students are required to have successfully completed the course **CE 303- THEORY OF STRUCTURES - I**

Course Description:

Theory of Structures –II mainly deals with the behavior of structure subjected to moving loads. The concept of Influence line diagram is introduced in this subject. It also deals with the advanced method of structural analysis, viz, Flexibility method, Stiffness method and Direct Element Method in which the students are acquainted with the matrix method for analysis of structures. Miscellaneous topic like analysis of Arches and Suspension Bridges is also included in this subject.

Course Outcomes:

On successful completion of this course, students will be able to:

- **CE353.1** Draw influence line diagrams for Reaction, S.F, B.M with different type of loading acting on statically determinate beams and trusses.(Apply Knowledge of Engineering Specialization to the solution of complex Engineering Problem –**PO-1**, Analyse the problem- **PO-2**)
- **CE353.2** Analyze cables and suspension bridges with 3 hinged stiffening girders.(Apply Knowledge of Engineering Specialization to the solution of complex Engineering Problem –**PO-1**, Analyse the problem- **PO-2**)
- **CE353.3** Analyse beams, Frames and truss with S.I not exceeding three using Flexibility method. .(Apply Knowledge of Engineering Specialization to the solution of complex Engineering Problem –**PO-1**, Analyse the problem- **PO-2**)

- **CE353.4** Analyse beams, Frames and truss with S.I not exceeding three using Stiffness method. (*Apply Knowledge of Engineering Specialization to the solution of complex Engineering Problem –PO-1, Analyse the problem- PO-2*)
- **CE353.5** Analyse the structure by Direct Element Method and Brief introduction of Software Package Staad Pro. (*Apply Knowledge of Engineering Specialization to the solution of complex Engineering Problem –PO-1, Analyse the problem- PO-2, and Apply appropriate modern Engineering and IT tools –PO-3*)

CO1, CO2 and CO5 will be taught by Mr Syed Yousuf Hussaini and CO3, CO4 and CO5 will be taught by Mr Mohd Nazim Raza.

Overview of Learning Activities

- Lectures & Class discussions
- Tutorials
- Assignment work

Overview of Learning Resources

- Prescribed Text Book : 1) "*Structural Analysis*", by Prakash Rao D.S
- 2) "*Structural Analysis A matrix approach*", by Pandit and Gupta
- 3) "*Theory of Structures*" by Ramamurtham , S
- Reference Books : 1) "*Basic structural Analysis*", by C.S. Reddy
- 2) "*Matrix Analysis of Framed Structure*",s by Weaver and Gere

Overview of Assessment

Assessment will be done by

- *Assignments Tutorial*
- *Class tests*
- *University Exam*

Mapping of Course Outcomes with Program Outcomes

	PO-1 a	PO-2 b	PO-3 c	PO-4 d	PO-5 e	PO-6 f	PO-7 g	PO-8 h	PO-9 i	PO-10 j	PO-11 k	PO-12 l
CO-1												
CO-2												
CO-3												
CO-4												
CO-5												

1: Slightly 2: Moderate 3: Substantially

Module Co-coordinator

Course Co-coordinator

MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
INFORMATION TECHNOLOGY DEPARTMENT

Class: B.E. III - Sem (CBCS) (IT A & B)

Academic Year: 2018-19

Subject: Discrete Mathematics

Code: PC301 IT

[Time: 1 Hour]

[Max Marks: 20]

CLASS TEST-I

PART-A

Answer ALL of the following question. 3 * 2 = 6 Marks

1. Show that $P \rightarrow Q \equiv \neg Q \rightarrow \neg P$. 2M
2. Give a Big Oh estimate for : $f(x) = (x+1)\log(x^2+1)+3x^2$. 2M
3. (a) How many different three letter initials with none of the letters repeated can people have. 1M
 (b) How many bit strings are there of length 6 or less? 1M

PART-B

Answer any TWO of the following questions. 2 * 7 = 14 Marks

4. (a) Let $F(x, y)$ be statement that “x can fool y”, where universe of discourse for both x and y consist of all people in world, use quantifiers to express each of these statements: “Everybody can fool Fred”, “Evelyn can fool everybody”, “Everybody can fool Somebody”, “There is no one who can fool everybody”. 4M
 (b) Show that if A and B are sets, then $\overline{A \cap B} = \overline{A} \cup \overline{B}$. 3M
5. (a) Express $\gcd(252, 198)$ as linear combination of 252 and 198, and also solve the linear congruence: $4x \equiv 5 \pmod{9}$. 5M
 (b) Find $f \circ g$ and $g \circ f$, where $f(x) = x^2 + 1$ and $g(x) = x + 2$, are functions from \mathbb{R} to \mathbb{R} . 2M
6. (a) Use Mathematical Induction to prove the formula for sum of a finite number of terms of a Geometric Progression: $\sum_{j=0}^n ar^j = a + ar + ar^2 + ar^3 + \dots + ar^n = \frac{ar^{n+1} - a}{r - 1}$ ($r \neq 1$) 3M
 (b). How many positive integers less than 1000 : i) are divisible by 7 ii) are divisible by 7 but not by 11, iii) are divisible by either 7 or 11 iv) are divisible by exactly one of 7 and 11. 4M

Question No __ Course Outcome __ Bloom's Score---MAPPING

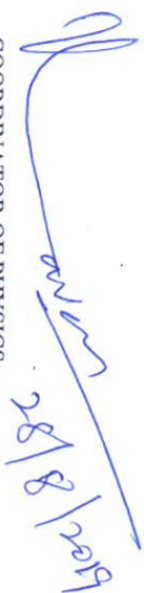
Question No.	Q1	Q2	Q3	Q4a	Q4b	Q5a	Q5b	Q6a	Q6b	
Course Outcome	CO 1	CO 4	CO 2	CO 1	CO 1	CO 1	CO1	CO 2	CO2	
Max Marks X_i	2	2	2	4	3	5	2	3	4	
Bloom's Score	2	2	3	5	3	7	6	7	8	
Blooms Index Score		=143/27								
		=5.3								

DEPARTMENT VISION: Fostering a bright technological future by enabling the students to function as leaders in software industry and serve as means of transformation to empower society through ITeS.
 DEPARTMENT MISSION: To create an ambience of academic excellence through state of art infrastructure and learner-centric pedagogy leading to employability in multi-disciplinary fields.

TIME TABLE OF BENCHMARK SEM-1 2019-20

ECE A WEDNESDAY	ECE B MONDAY	IT A FRIDAY	IT B FRIDAY	MECH - A THURSDAY	MECH - B WEDNESDAY	PROD TUESDAY
(11AM-12N) 4TH SEPT RA	(9AM-10AM) 9TH SEPT SIM	(10AM-11AM) 6TH SEPT NZ	(9AM-10AM) 6TH SEPT NZ	(9AM-10AM) 5TH SEPT SKA	(10AM-11AM) 4TH SEPT SA	(11AM-12N) 3RD SEPT SIM
(11AM-12N) 25TH SEPT RA	(9AM-10AM) 30TH SEPT SIM	(10AM-11AM) 27TH SEPT NZ	(9AM-10AM) 27TH SEPT NZ	(9AM-10AM) 26TH SEPT SKA	(10AM-11AM) 25TH SEPT SA	(11AM-12N) 1ST OCT SIM
(11AM-12N) 30TH OCT RA	(9AM-10AM) 28TH OCT SIM	(10AM-11AM) 1ST NOV NZ	(9AM-10AM) 1ST NOV NZ	(9AM-10AM) 31ST OCT SKA	(10AM-11AM) 30TH OCT SA	(11AM-12N) 29TH OCT SIM

COORDINATOR OF PHYSICS


28/8/2019

BENCH MARK TEST
B.E. I/IV I SEM 2018-2019
BRANCH: IT-A

Answer all the following Questions.

Name of the Student _____

Each Question carry 2 Mark.

Roll No. _____

Q.1 Calculate the wave length associated with an electron raised to a potential 1600V?

Ans.

Q.2 An electron is confined to 1D potential box of length $2A^0$. Calculate the energies corresponding to 2nd and 4th Quantum state in eV?

Ans.

Q.3 Write Maxwell's equations in Integral and differential forms?

Ans.

Q.4 a) Define De-Broglie's wave length. b) Write Schrodinger's Time Independent equations?

Ans.

Q.5 Write the physical significance of wave function?

Ans.

Material Handling QUIZ

B.E- 3/4- VI Semester Civil A- 2018-19

By

Dr. Ishrat Meera Mirzana, Professor, MED, MJCET

* Required

1. Email address *

2. Roll Number (write your complete roll no.) *

(Example: 1604-16-732-000) - If full roll number is not provided your response will not be recorded.

Material Handling QUIZ

by Dr. Ishrat M Mirzana, Professor, MED, MJCET

3. AS/RS is utilized for

Mark only one oval.

- Increasing the storage capacity
- Utilization of maximum floor space
- Increasing labour cost
- Reducing safety

4. For high pressures and low volume, the following compressor is utilized

Mark only one oval.

- Reciprocating compressor
- Screw Compressor
- Rotary compressor
- all the above

5. Availability is a measure of

Mark only one oval.

- Utilization
- System throughput
- System reliability
- None of the above

6. AGV consists of*Mark only one oval.*

- Wireless communication
- Vehicle
- Battery/Charger
- All of the above

7. Types of AGVs are*Mark only one oval.*

- Towing vehicles for driveless trains
- Pallet trucks
- Unit load carriers
- All of the above
- Option 5

8. Analysis of vehicle based systems is done graphically using*Mark only one oval.*

- From to chart
- Network diagram
- Both
- None

9. Dilute phase pneumatic conveying systems operate*Mark only one oval.*

- above 15 psi
- below 15 psi
- at 15 psi
- none of the above

10. Material handling consists of movement of material from*Mark only one oval.*

- one machine to another
- one shop to another shop
- stores to shop
- all of the above

11. RFID technology is utilized by*Mark only one oval.*

- D'Mart
- Walmart
- Best Price
- Metro

12. Storage capacity is dependent on*Mark only one oval.*

- Total volumetric space
- Number of storage compartments
- Both
- None

13. Some of the types of bins are*Mark only one oval.*

- Conical
- Pyramidal
- Wedge
- Chisel

14. System Throughput is same for Single and dual command cycle*Mark only one oval.*

- True
- False

15. Fans and blowers are turbomachines that deliver air at*Mark only one oval.*

- High velocity
- Low static pressure
- Both High velocity and low static pressure
- None of the above

16. Example of Vacuum pump*Mark only one oval.*

- Roots pump
- Rotary Vane pump
- Both
- None of the above

17. The following is supported from the ceilings*Mark only one oval.*

- Roller conveyor
- Belt conveyor
- Chain conveyor
- All of the above

18. In funnel flow, the material will be*Mark only one oval.*

- flowing with same velocity
- moving in central core
- Both
- None of the above
- Option 5

19. Principle of 'Unit load' states that*Mark only one oval.*

- materials should be moved in lots
- one unit should be moved at a time
- both 'a' and 'b'
- none of the above

20. The following is used to transport materials having flat bottoms*Mark only one oval.*

- Belt conveyor
- Roller conveyor
- Chain conveyor
- None of the above

21. Total cycle time per delivery per vehicle is dependent on*Mark only one oval.*

- Load and unloading time
- Carrier velocity
- Distance between load and unload stations
- All of the above

22. Problems with Hoppers are*Mark only one oval.*

- Ratholing / Piping
- Arching/ Doming
- Flushing
- Insufficient Flow

23. Silos walls are constructed using*Mark only one oval.*

- Conventional method
- Jump form method
- Slip form method
- All of the above

24. The force required in conveying systems is*Mark only one oval.*

- Pressure differential
- Air or other gas flow
- both
- None of the above

25. Number of carriers or vehicles is dependent on*Mark only one oval.*

- available time
- Layout of the plant
- Production unit
- None

26. Which of the following is not a hoisting equipment with lifting gear?*Mark only one oval.*

- Cage elevators
- Jib Cranes
- Pulleys
- Troughed Belts

27. Which of the following is a property of bulk load?*Mark only one oval.*

- Hardness
- Cake forming tendency
- Suspension Part
- weight

Powered by



Material Handling QUIZ

63 responses

[Publish analytics](#)

Roll Number (write your complete roll no.)

63 responses

1604-16-732-042

1604-16-732-035

1604-16-732-044

1604-16-732-312

1604-16-732-029

1604-16-732-309

1604-16-732-040

1604-16-732-010

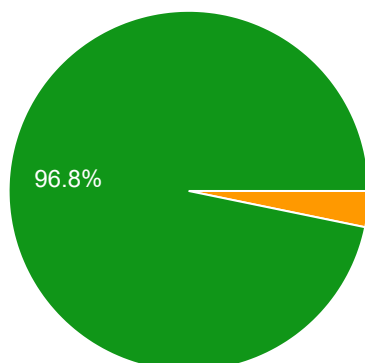
1604-16-732-306

1604-16-732-025

Material Handling QUIZ

Material handling consists of movement of material from

62 responses

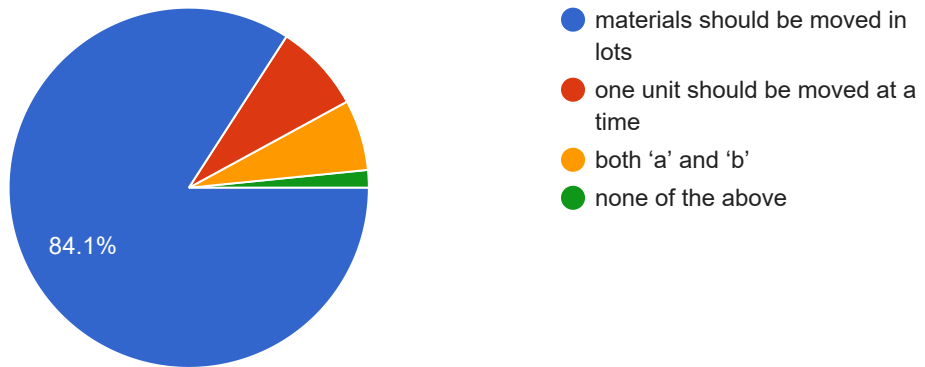


- one machine to another
- one shop to another shop
- stores to shop
- all of the above



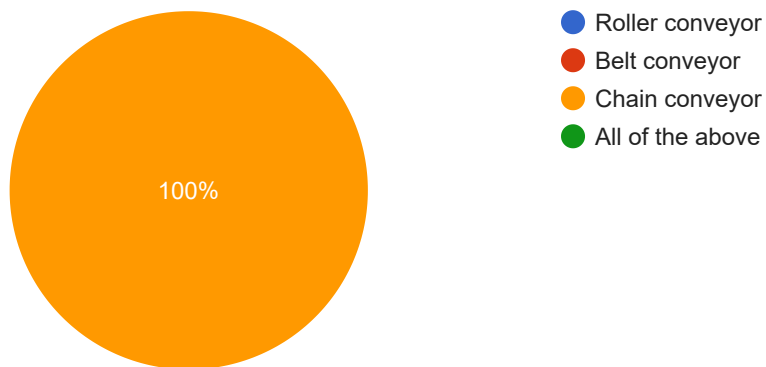
Principle of 'Unit load' states that

63 responses



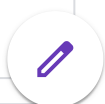
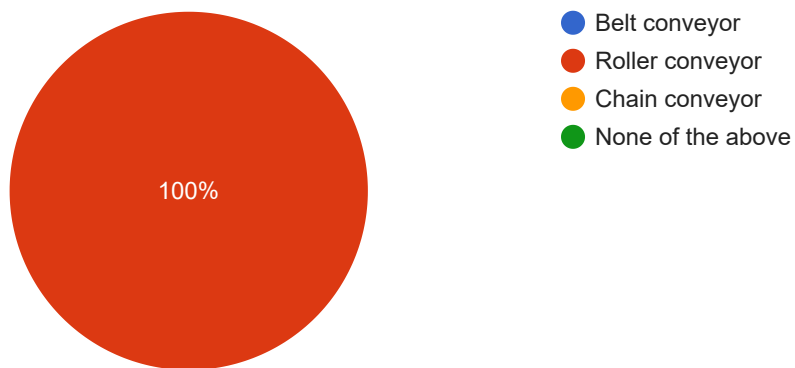
The following is supported from the ceilings

63 responses



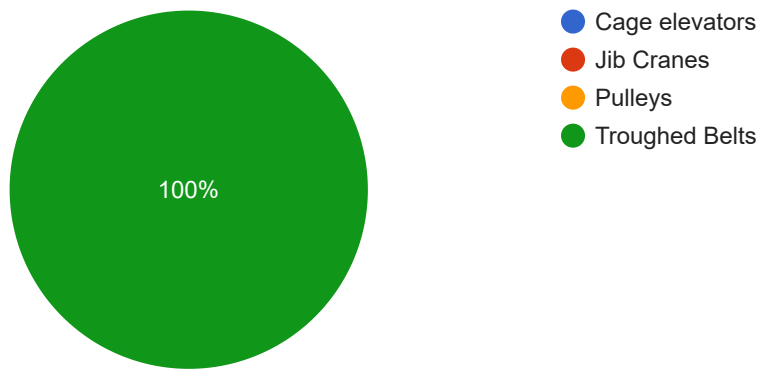
The following is used to transport materials having flat bottoms

63 responses



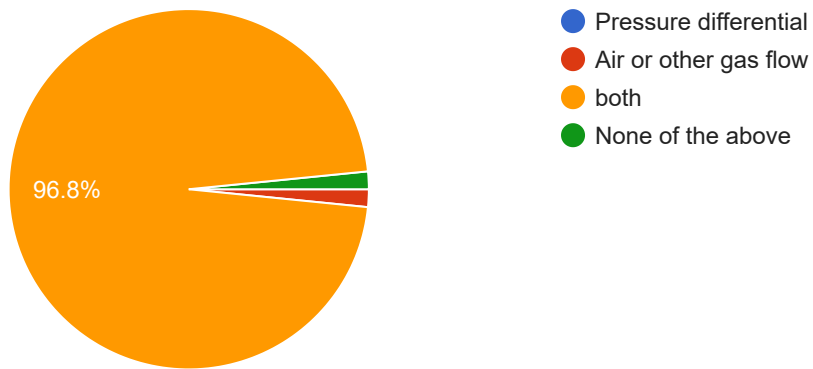
Which of the following is not a hoisting equipment with lifting gear?

63 responses



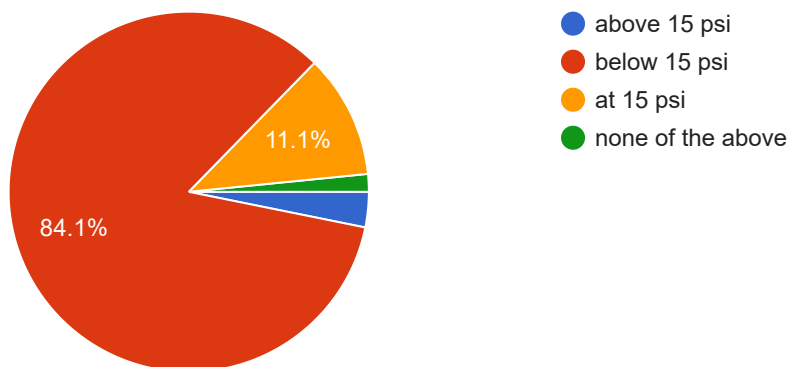
The force required in conveying systems is

63 responses



Dilute phase pneumatic conveying systems operate

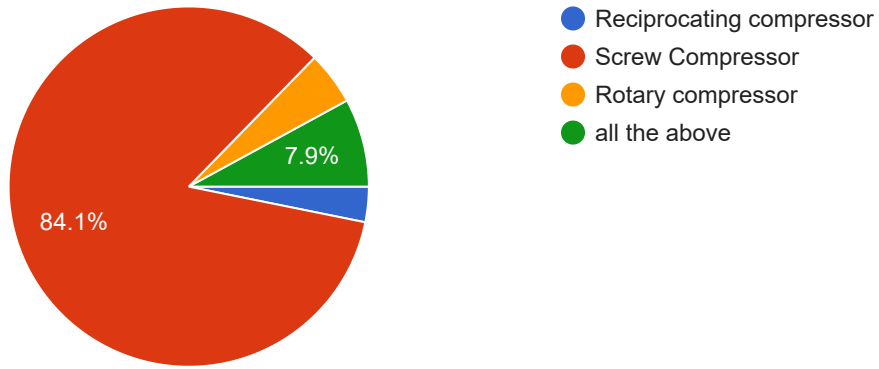
63 responses



For high pressures and low volume, the following compressor is utilized

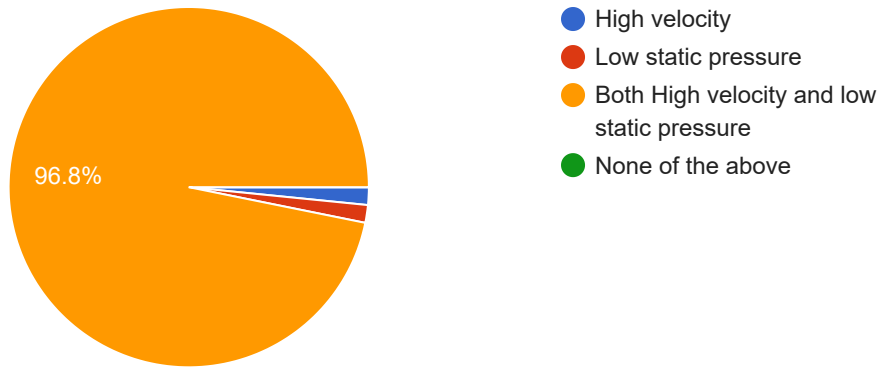
63 responses





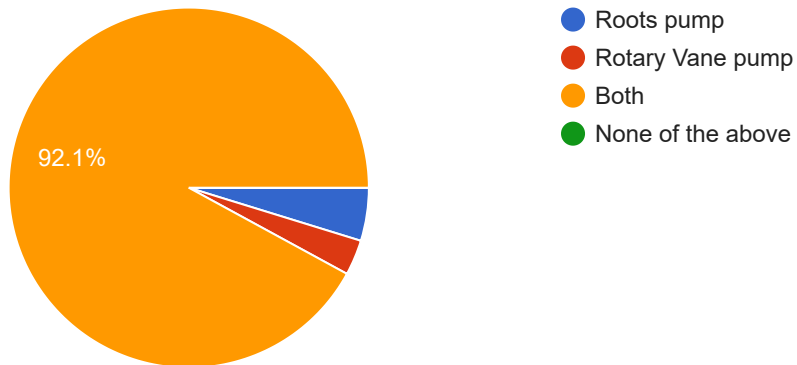
Fans and blowers are turbomachines that deliver air at

63 responses



Example of Vacuum pump

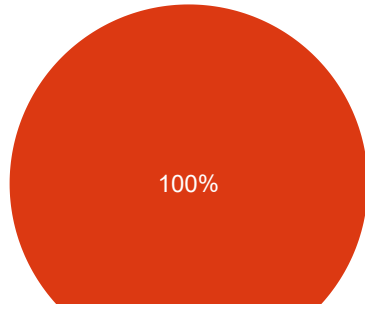
63 responses



Which of the following is a property of bulk load?

63 responses

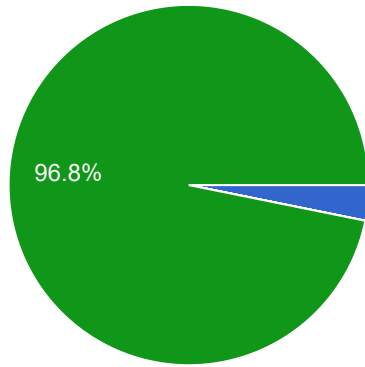




- Hardness
- Cake forming tendency
- Suspension Part
- weight

Silos walls are constructed using

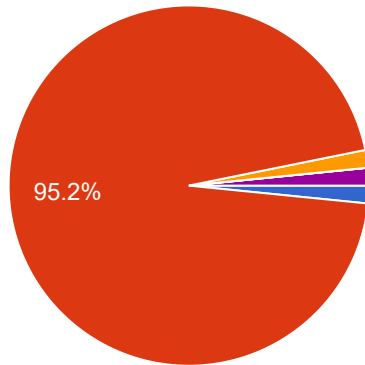
63 responses



- Conventional method
- Jump form method
- Slip form method
- All of the above

In funnel flow, the material will be

63 responses

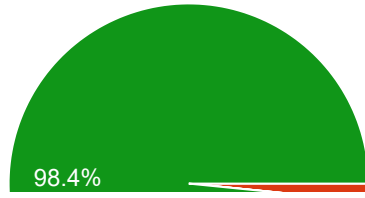


- flowing with same velocity
- moving in central core
- Both
- None of the above
- Option 5

Problems with Hoppers are

63 responses

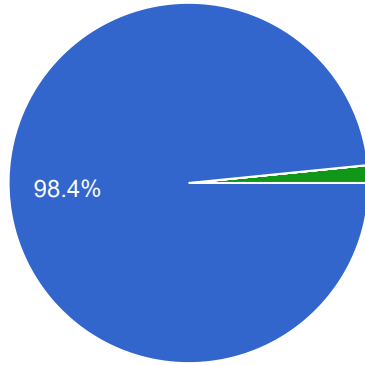




- Ratholing / Piping
- Arching/ Doming
- Flushing
- Insufficient Flow

Some of the types of bins are

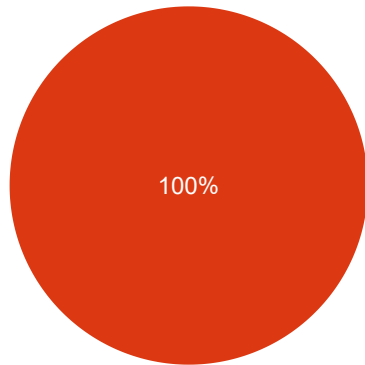
63 responses



- Conical
- Pyramidal
- Wedge
- Chisel

AS/RS is utilized for

63 responses



- Increasing the storage capacity
- Utilization of maximum floor space
- Increasing labour cost
- Reducing safety

AGV consists of

63 responses

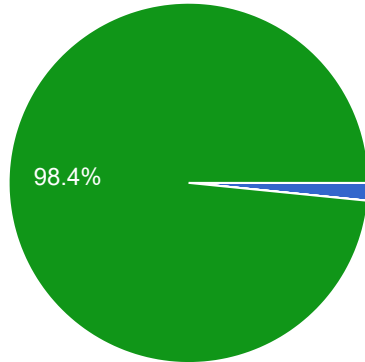




- Wireless communication
- Vehicle

Types of AGVs are

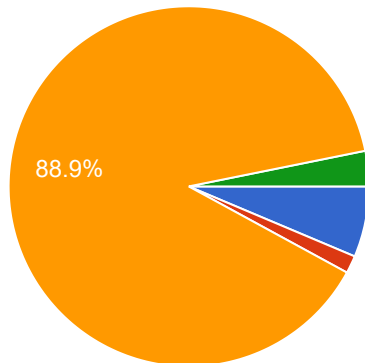
63 responses



- Towing vehicles for driveless trains
- Pallet trucks
- Unit load carriers
- All of the above
- Option 5

Availability is a measure of

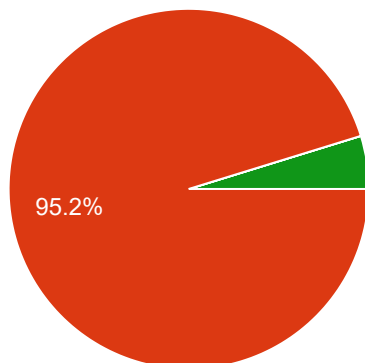
63 responses



- Utilization
- System throughput
- System reliability
- None of the above

RFID technology is utilized by

63 responses

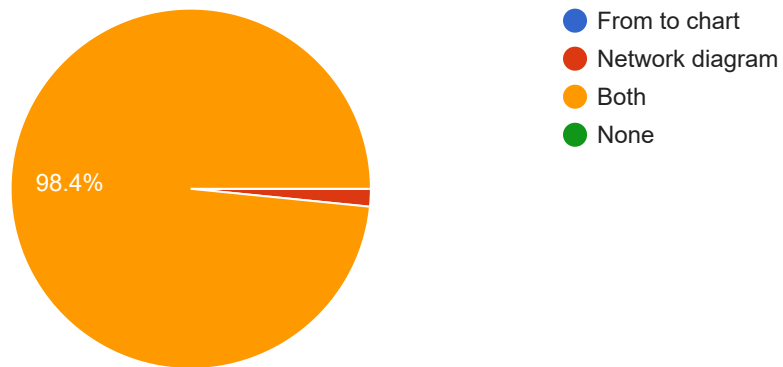


- D'Mart
- Walmart
- Best Price
- Metro



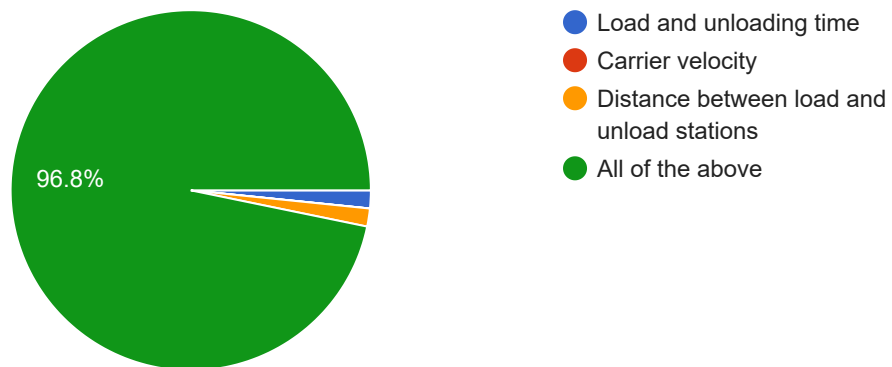
Analysis of vehicle based systems is done graphically using

63 responses



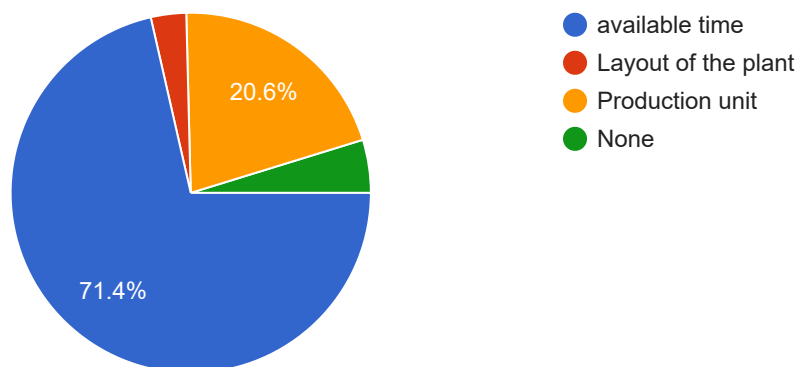
Total cycle time per delivery per vehicle is dependent on

62 responses



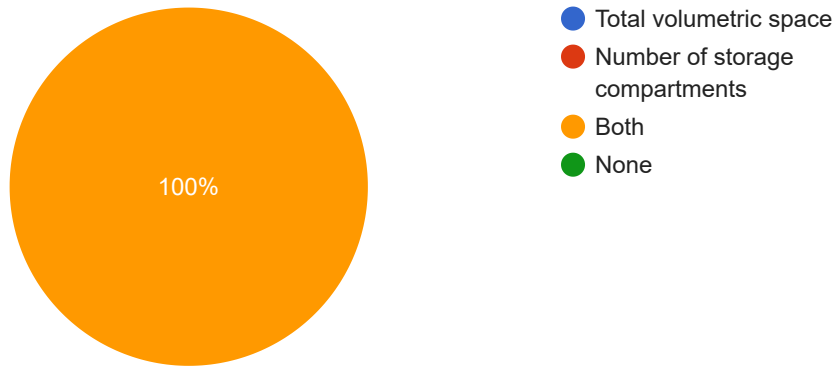
Number of carriers or vehicles is dependent on

63 responses



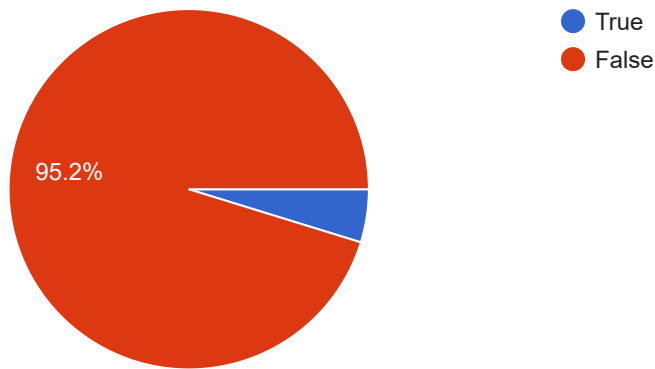
Storage capacity is dependent on

63 responses



System Throughput is same for Single and dual command cycle

63 responses



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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY
B.E II/IV Year (IT – A & B) I - Sem
DATA STRUCTURES (BIT-204) – TUTORIAL

Course Outcome	Correlation with Unit of Syllabus	Question Numbers
1	I	1
2	II & III	2
3	IV & V	3
4	V	4

Course Outcome 1:

1. (a). Show that following equalities are correct: i) $5n^2 - 6n = \Theta(n^2)$, ii). $n! = O(n^n)$,
 iii). $\sum_{i=0}^n i^3 = \Theta(n^3)$, iv). $33n^3 + 4n^2 = \Omega(n^2)$, v). $n^3 + 10^6 n^2 = \Theta(n^3)$ (10M)

(b). Determine the frequency counts for all statements in the following program segments:
 (5x2=10M)

i). For (i=1;i<=n;i++)
 For(j=1;j<=I;j++)
 For(k=1;k<=j;k++)
 X++;

ii) Calculate the step counts in algorithm for multiplying two square matrices.

(c) Represent the following Sparse matrix using <row, col, value> triple and also compute its transpose and write it using the same representation. (5X2=10M)

15	0	0	22	0	-15
0	11	3	0	0	0
0	0	0	-6	0	0
0	0	0	0	0	0
91	0	0	0	0	0
0	0	28	0	0	0

Course Outcome 2:

2. a). Write the postfix form of following Expressions and also show using stack notations as how these postfix expressions are evaluated assuming A=1, B=7, C=4, D=8,E=12,F=6, G=2 (5+5=10M)

i). A*B*C ii). -A+B-C+D iii). A*-B+C

iv). (A+B)*D+E/(F+A*D)+C v). A*(B+C)/D-G
 (5+5=10M)

b). To the class Queue, add following functions: (2+4+4=10M)

i. Size(): to return size and capacity of the Queue.

ii. Split(): add a function to split a queue into two queues, the first queue is to contain every other element beginning with first; second queue contains remaining elements

iii. Merge(): add a function to merge two queues into one by alternately taking elements from each queue

c). Add the following function to SLL class: (5X2=10M)

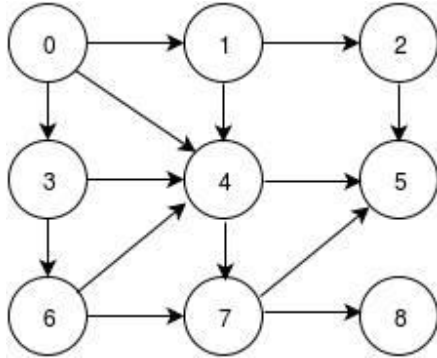
i. a function to delete every other node beginning with node *first* (that is first, third, fifth, and so on)

ii. Let $x=(x_1, x_2, x_3, \dots, x_n)$ and $y=(y_1, y_2, y_3, \dots, y_n)$ be two chains. Write a function to merge these two chains to obtain a single chain $z=(x_1, y_1, x_2, y_2, \dots, x_n, y_n)$.

Course Outcome 3.

3. a). Construct Max Heap and Min Heap for the following set of data elements: 10, 12, 45, 32, 56, 6, 58, 12, 78,60 (5X2=10M)

b). Perform the DFS and BFD on following graph: (5X2=10M)



c). Construct a binary search tree by inserting following elements (in the order): 25, 15, 30, 45, 12, 33, 22, 3, 7, 5, 14, 49, 26, 17. Construct a binary tree whose nodes in Inorder and Preorder are given as follows: (5+5=10M)

Inorder: 10, 15, 17, 18, 20, 25, 30, 35, 38, 40, 50

Preorder: 20, 15, 10, 18, 17, 30, 25, 40, 35, 38, 50

Course Outcome 4.

4. a). Explain working of Insertion and Selection Sort for the following data set:

(12, 2, 16, 30, 8, 28, 4, 10, 20, 6, 18). (10M)

b).Write the status of List (12, 2, 16, 30, 8, 28, 4, 10, 20, 6, 18) at end of each phase of Merge Sort. (10M)

c). Perform Quick sort on following data to obtain a fully sorted List: (12, 2, 16, 30, 8, 28, 4, 10, 20, 6, 18) (10M)

LABORATORY COURSE EVALUATION RUBRIC

CATEGORY	OUTSTANDING (Up to 100%)	ACCOMPLISHED (Up to 75%)	DEVELOPING (Up to 50%)	BEGINNER (Up to 25%)
Write up format	Aim, Apparatus, material requirement, theoretical basis, procedure of experiment, sketch of the experimental setup etc. is demarcated and presented in clearly labeled and neatly organized sections.	The write up follows the specified format but a couple of the specified parameters are missing.	The report follows the specified format but a few of the formats are missing and the experimental sketch is not included in the report	The write up does not follow the specified format and the presentation is shabby.
Observations and Calculations	The experimental observations and calculations are recorded in neatly prepared table with correct units and significant figures. One sample calculation is explained by substitution of values	The experimental observations and calculations are recorded in neatly prepared table with correct units and significant figures but sample calculation is not shown	The experimental observations and calculations are recorded neatly but correct units and significant figures are not used. Sample calculation is also not shown	The experimental observations and results are recorded carelessly. Correct units significant figures are not followed and sample calculations not shown
Results and Graphs	Results obtained are correct within reasonable limits. Graphs are drawn neatly with labeling of the axes. Relevant calculations are performed from the graphs. Equations are obtained by regression analysis or curve fitting if relevant	Results obtained are correct within reasonable limits. Graphs are drawn neatly with labeling of the axes. Relevant calculations from the graphs are incomplete and equations are not obtained by regression analysis or curve fitting	Results obtained are correct within reasonable limits. Graphs are not drawn neatly and or labeling is not proper. No calculations are done from the graphs and equations are not obtained by regression analysis or curve fitting	Results obtained are not correct within reasonable limits. Graphs are not drawn neatly and or labeling is not proper. No calculations are done from the graphs and equations are not obtained by regression analysis or

CATEGORY	OUTSTANDING (Up to 100%)	ACCOMPLISHED (Up to 75%)	DEVELOPING (Up to 50%)	BEGINNER (Up to 25%)
				curve fitting
Discussion of results	All relevant points of the result are discussed and justified in light of theoretical expectations. Reasons for divergent results are identified and corrective measures discussed.	Results are discussed but no theoretical reference is mentioned. Divergent results are identified but no satisfactory reasoning is given for the same.	Discussion of results is incomplete and divergent results are not identified.	Neither relevant points of the results are discussed nor divergent results identified

SEMINAR EVALUATION RUBRIC

CATEGORY (% of Marks)	OUTSTANDING (75-100%)	ACCOMPLISHED (51-75%)	DEVELOPING (26-50%)	BEGINNER (Upto25%)
Enthusiasm	Facial expressions and body language generate a strong interest and enthusiasm about the topic in others.	Facial expressions and body language sometimes generate a strong interest and enthusiasm about the topic in others.	Facial expressions and body language are used to try to generate enthusiasm, but seem somewhat faked.	Very little use of facial expressions or body language. Did not generate much interest in topic being presented.
Posture	Stands up straight, looks relaxed and confident and looks always towards the audience during presentation	Stands up straight and looks towards the audience during presentation and sometimes looks down/reads slides.	Posture not straight and sometimes looks towards the audience but looks mostly at reads slides or downwards	Slouches and/or does not look towards the audience and mostly reads slides or looks down during presentation
Speaks Clearly and distinctly	Understand and hear the speaker all the time	Understand and hear the speaker most of the time	Understand and hear the speaker only sometimes but speaks too softly most of the time	Cannot hear or understand the speaker at all as he/she is speaking too softly
Speaker's slides	Slides as well as text are formatted with no spelling errors. Slides not cluttered with text. There are diagrams	Slides are well as text is formatted with some spelling errors and some slides have too much text. There are few diagrams	Some slides are not formatted as well as text is not formatted and have spelling errors. Most slides have too much text with very few diagrams	Each slide looks different with different font sizes and have too much text in all slides. There are no diagrams at all.
Speaker's Communication about the topic	The student has explained the topic at the level of the audience very well	The student has explained the topic well at the level of audience but not completely and requires to read more	The students has partly explained the topic at the level of the audience but really needs to read at lot	The student does not seem to have properly communicated about the topic at all.

CATEGORY (% of Marks)	OUTSTANDING (75-100%)	ACCOMPLISHED (51-75%)	DEVELOPING (26-50%)	BEGINNER (Upto25%)
Technical Content	The student has used relevant technical information exhaustively and connected it with the presentation topic	The student has used relevant technical information exhaustedly but failed to connect it with the presentation topic	The student has used relevant technical information sparingly and failed to connect it with the presentation topic	The presentation is weak in technical content with little or no explicit connection with the topic of presentation
Speaker's ability to answer questions	Student is able to accurately answer almost all questions posed by audience about the topic.	Student is able to accurately answer most questions posed by audience about the topic.	Student is able to accurately answer only a few questions posed by audience about the topic.	Student is unable to accurately answer any questions posed by audience about the topic.

Project Report Assessment Rubric

	Unacceptable	Marginal	Adequate	Exceptional	Max. Score
<p>Problem Statement (Describes the practical application and importance of the problem)</p> <p>Project Objective (Describe what the project is trying to achieve.)</p> <p>Methodology (Approach or technique or formula used to carry out a project)</p>	<p>Does not describe the practical application and importance of the problem in concise technical terms.</p> <p>No objectives defined.</p> <p>Methodology not identified</p> <p>(0-2)</p>	<p>Describes the practical application and importance of the problem in concise technical terms and partially identifies the methodology.</p> <p>(3-5)</p>	<p>Clearly describes the practical application and importance of the problem in concise technical terms and identifies the methodology.</p> <p>(6-8)</p>	<p>Very clearly describes the practical application and importance of the problem in concise technical terms and explicitly state the methodology with justification.</p> <p>(9-10)</p>	10
<p>Analysis (Detailed examination of the structure of the project)</p>	<p>Incorrect modeling and no appropriate assumptions listed.</p> <p>(0-2)</p>	<p>Correct modeling and some appropriate assumptions listed.</p> <p>(3-5)</p>	<p>Correct modeling and appropriate assumptions listed.</p> <p>(6-8)</p>	<p>Correct modeling and all appropriate assumptions listed.</p> <p>(9-10)</p>	10

	Unacceptable	Marginal	Adequate	Exceptional	Max. Score
Project Planning (Description of course outline, Briefing of time management, Selection of Topics, Tools, Methods and supervisor)	No proper planning No communication. No Time management.	Average planning by gathering the ideas from literature survey, forming the project team and communicating the progress. Good Time management.	Good planning by gathering the ideas from literature survey, forming the project team and communicating the progress. Very good Time management.	Good planning by gathering the ideas from literature survey, forming the project team and communicating the progress effectively. Excellent Time management.	10
	(0-2)	(3-5)	(6-8)	(9-10)	
Implementation /Design (Description of course outline, Briefing of time management, Selection of Topics, Tools, Methods and supervisor)	Design does not meet desired objectives. Poor implementation of project.	Design meets desired objectives to some extent. Average implementation of project.	Design meets desired objectives. Good implementation of project.	Design meets or exceeds desired objectives. Effective implementation of project.	20
	(1-5)	(6-10)	(11-15)	(16-20)	
Numerical Results/ Drawing/ graphical artifact /Conclusions	No or erroneous conclusions based on achieved results.	Serious deficiencies in support for stated conclusions.	Sound conclusions reached based on achieve results.	Insightful supported conclusion and recommendations.	10
	(0-4)	(5-7)	(8-9)	(10)	
Project Report Maximum Marks 30					

	Unacceptable	Marginal	Adequate	Exceptional	Max. Score
Project Report (Report format is consistent throughout including justification, heading style, font, margins, indentation, citations and references.)	Work fails to follow the required Report format. (0-4)	Many deviations from required Report format. (5-7)	Report format is generally consistent. (8-9)	Report format is consistent. 10	10
	Figures/ Graphs/ Illustrations/ Tables does not follow any formatting rules.	Figures/ Graphs/ Illustrations/ Tables are properly formatted. Missing or irrelevant captions.	Figures/ Graphs/ Illustrations/ Tables are properly formatted with suitable caption, but not cited in the text.	Figures/ Graphs/ Illustrations/ Tables are properly formatted with suitable caption and appropriately cited.	5
	Citation failed to follow required format or no citation provided. No referencing system used. (0-4)	Citation follows few required format. Major inconsistencies in table representation and references formats. (5-7)	Citation are consistent with the required format Minor inconsistencies in table representation and references formats. (8-9)	Citations are effectively consistent with the required format. References comprehensive and follow the required format. (10)	10 (use rubric in Annexure II if desired)
	There are many grammatical errors.	There are few grammatical errors.	There are very few grammatical errors.	There are no grammatical errors.	5
Diaries (Recording the visits and the task completed by the student on some timestamp)	Not visits, no progress. (0-2)	No Punctuality in visits and planning .Progress not as per the timestamp.(4-6)	Less Punctuality in visits and planning. Progress as per the timestamp.(7-8)	Punctuality in visits and planning .Progress as per the timestamp. (9-10)	10

Rubric for Literature survey/ background/ related work for Application based / Research Oriented Project

Activity	Unacceptable	Marginal	Adequate	Exceptional	Max Score
Resources* Referred	Single resource is used for review	Limited number of resources are used for review	Multiple resources of acceptable quality are used for review	Multiple resources of exceptional quality are used for review	5
Usage of Background work	No conclusions are made from the evidence cited.	There is some indication of conclusions from the evidence cited.	Conclusions are reached from the evidence cited.	Detailed conclusions are reached from the evidence cited.	5
Total (10)					