

Best Practice -2

Objective	Evaluation
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Supporting documents for Objective Evaluation

- Controller of Examinations office level

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA.

(ACADEMIC SECTION)

NO.SS/24/ 30 /

DATED: 19.06.2017

Sub: Change of pattern of end semester question papers.

Sir,

It is informed that NBA Evaluator's team for PG Programms who visited in the college last time has pointed during exit meeting about the pattern of question paper being followed by our institute. Existing pattern of question paper is not able to measure all learning outcomes of a particular course. In the light of this, a committee of following members is constituted to make the new format for question papers of UG & PG courses:

Sr.No.	Name of Staff Member & Designation	
1	Dr. Sehijpal Singh, HOD (ME); and Institute Accreditation Coordinator-UG Programmes	Chairman
2	Dr.Jagbir Singh, Prof. (CE); and Deputy Registrar(Academics)	Member
3	Dr. B.S. Dhaliwal, Assistant Prof. (ECE)	Member
4	Dr. K.D. Singh, Assistant Prof. (EE); and Assistant Controller (Question Paper Setting)	Member

The committee is requested to submit its recommendations within two weeks for all programs for which syllabus has been designed by the institute by going into the details of the curriculum.

[Signature]
Dean Academics

Distribution:

Director – for information please.
All concerned
Student Section
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File
[Signature]
20/6/17



ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜ: ਕਾਲਜ
GURU NANAK DEV ENGINEERING COLLEGE
An Autonomous College u/s 2(f) and 12(B) of UGC Act, 1956

Institute accredited by NAAC (A Grade) & TCS
Institution of Engineers (India) Accredited UG Programmes
AICTE Approved, Affiliated to JKG Punjab Technical University, SO : 3001:2008 Certified

No. RK98/1405

14.9.17

MINUTES OF MEETING OF HODS HELD ON MONDAY, 4.9.2017 AT 3 PM IN COMMITTEE ROOM

PRESENT:

- 1 HODs
- 2 COE

Following recommendations are made unanimously:

- 1 New pattern of theory question papers (MST and External End Semester Examination) will be applicable for B.Tech. (1st Year) Scheme- 2017 from current session onwards (copy attached).
- 2 The syllabus of various courses will be bifurcated into two parts (I & II) -applicable for Scheme 2017 onwards.
- 3 End Semester Theory examination will be started w.e.f 22nd November, 2017 onwards
- 4 Department website must contain POs and PSOs as per the above points.
- 5 Program curriculum should be evolved using POs and PSOs.
- 6 For each course (including all theory and practical subjects like trainings, projects etc.) atleast 6 COs must be formulated for which attainment can be computed through mid-semester tests, mid-term evaluations for practical, assignments and end semester examination (theory and practical).
- 7 For assesment of additional COs (if any) other assesment tools like (rubrics/ quiz/ survey) may be used.
- 8 All course outcomes must be mapped with POs and PSOs with appropriate correlation value.
- 9 The COs should not be defined topic/module/unit wise and rather based on the POs/PSOs through appropriate mapping.
- 10 Revised Bloom's Taxonomy should also be referred while defining COs.

HOD(CE) HOD(ME) HOD(EE) HOD(ECE) HOD(GSE) HOD(IT) HOD(PE)

HOD(ASC) HOD(MBA) HOD(MCA) COE

As per above recommendations of HOD, it may be allowed

DEAN (AC)

Approved/Not Approved

DGNDEC

Copy to:

- 1 HODs
- 2 COE

Gill Park, Gill Road, Ludhiana-141006
Phone: 0161-2502700, 2502240 (Fax), Email:director@gndec.ac.in

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

An Autonomous College Under UGC Act - 1956 [2(f) and 12(B)]

Affiliated to I.K.G. Punjab Technical University

No. NBA/104/21

Date: 21-02-2018

All HODs

In continuation to No.SS/CBS 2017/990, Dated 19.02.2018 (circular from the office of Dean Academics), please ensure that attached templates for (B.Tech./MBA/MCA and M.Tech.) are used by faculty for setting of mid semester test (MST) question papers from the current session. It is further suggested that at department level a committee to scrutinize the quality of MST question papers (before using them for the test) should also be formulated. The tentative constitution is as follows:

1. HOD – as Chairman
2. Concerned Course Coordinator
3. Concerned Subject/Course Expert (not the course coordinator)
4. Concerned Module Coordinator
5. Deptt. NBA I/c – as Convenor

The softcopy of the sample templates is also available in faculty login (<http://exam.gndec.ac.in>). The explanation for Revised Bloom's Taxonomy's (RBT) standard terms (LOTS and HOTS) and related verbs/phrases to be used in questions is given in the table 1.

Table 1: Revised Bloom's Taxonomy (RBT) Levels

Sr. No.	Low Order Thinking Skills (LOTS)	High Order Thinking Skills (HOTS)
1.	Remembering: Recalling relevant terminology, specific facts, or different procedures related to information and/or course topics. At this level, a student can remember something, but may not really understand it. (Recalling information, Recognizing, Listing, Describing, Retrieving, Naming)	Analyzing: The ability to break information down into its component parts. Analysis also refers to the process of examining information in order to make conclusions regarding cause and effect, interpreting motives, making inferences, or finding evidence to support statements/arguments. (Breaking information into parts to explore understanding and relationships, Comparing, Organizing, Deconstructing, Interrogating, Finding)
2.	Understanding: The ability to grasp the meaning of information, facts, definitions, concepts, etc. that has been presented. (Explaining idea or concepts, Interpreting, Summarizing, Paraphrasing, Classifying, Explaining)	Evaluating: Being able to judge the value of information and/or sources of information based on personal values or opinions. (Justifying a decision or course of action, Checking, Hypothesizing, Critiquing, Experimenting, Judging)
3.	Applying: Being able to use previously learned information in different situations or in problem solving. (Using Information in another familiar situation, Implementing, Carrying out, using, executing)	Creating: The ability to create or uniquely apply prior knowledge and/or skills to produce new and original thoughts, ideas, processes, etc. At this level, students are involved in creating their own thoughts and ideas. (Generating new ideas, Products, or ways of viewing things, Designing, Constructing, Planning, Producing, Inventing)

For more information , please refer <https://tlc.iitm.ac.in/PDF/Blooms%20Tax.pdf>

Institutional Coordinator Accreditation (NBA)

Copy to:

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2. Dean Academics
3. Office Copy



GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
An Autonomous College Under UGC Act - 1956 [2(f) and 12(B)]
Affiliated to I.K.G Punjab Technical University, Jalandhar

No. COE/101/ 7688

Date: 7/11/2019

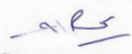
Principal


As per Question Paper format for B. Tech. 2018 admission batch, in Part 'C' Question No. 8 (LOTS) should be from Part-A of syllabus and Question No. 9 (HOTS) should be from Part-B (Copy attached)

Some HODs pointed out that for many subjects, the quality of question paper will be lowered if these guidelines are followed. So accordingly the following guidelines for Part-C are proposed.

<p align="center">Part - C</p> <p>Q8. Question based on Low Order Thinking Skills (LOTS) OR Question based on Low Order Thinking Skills (LOTS)</p> <p>Q9. Question based on Low Order Thinking Skills (HOTS) OR Question based on Low Order Thinking Skills (HOTS)</p> <p>Note : Out of Q8 and Q9 one should be from Part-A and other should be from Part-B of the syllabus.</p>




Submitted for approval please.


Controller of Examinations


Approved / Not approved


Principal


Deshpande


H/O
NO (ce)
1. DCE (OP) 
2. RLG 
15/11



GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
An Autonomous College under UGC Act - 1956 [2(f) and 12(B)]
Affiliated to I.K.Gujral Punjab Technical University

No. COE/104/7705

Dated: 13-11-2019

Notice

It is for the information of students of B. Tech. admission batch 2018 (All Branches) and M. Tech. admission batch 2019 (All Branches Full Time / Part Time, AICTE / RC) that the outcome based (OB) examinations and evaluation system has been implemented for these programs. Therefore, the OB question paper pattern will be followed in the End Semester Examination (ESE) Nov. 2019 for the regular examination for students belonging to above mentioned batches.

The template of these question papers is attached herewith. All students of these batches / Programs are advised to prepare for examination according to these new question paper patterns.




However, old question paper patterns will continue to be followed for all other batches / programs (Regular / Re-appear students).


Controller of Examinations

Encls:

1. Question paper pattern for B. Tech. admission batch 2018 onwards
2. Question paper pattern for M. Tech. admission batch 2019 onwards

Copy to: -

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2. Dean Academics  14/11/19
3. All HODs  14/11/19

Display: General Notice Board and College/Department websites

DISTRIBUTION : ALL HOD'S

1. CE 2. ME
3. EE 4. ECS
5. PE 6. CSE
7. IT 8. APP SQ
9. MBA 10. MCA
11. Workshop

[Total No. of Questions: 08]

[Total No. of Pages:]

Uni. Roll No.

Program: M.Tech. (Batch 2019 onward)

Name of Subject:

Subject Code:

Paper ID:

Time Allowed: 03 Hours

Max. Marks: 100

NOTE:

- 1) Attempt all questions
- 2) Any missing data may be assumed appropriately

Part-A (4 @ 5 = Marks)

- Q1.** Question based on Lower Order Thinking Skills (LOTS).
- Q2.** Question based on Higher Order Thinking Skills (HOTS).
- Q3.** Question based on Lower Order Thinking Skills (LOTS).
- Q4.** Question based on Higher Order Thinking Skills (HOTS).

Part-B (4 @ 20 = 80 Marks)

- Q5.** Question based on Lower Order Thinking Skills (LOTS).

Or

Question based on Lower Order Thinking Skills (LOTS).

(Internal choice only i.e. both questions should be from same module)

- Q6.** Question based on Higher Order Thinking Skills (HOTS).

Or

Question based on Higher Order Thinking Skills (HOTS).

(Internal choice only i.e. both questions should be from same module)

- Q7.** Question based on Lower Order Thinking Skills (LOTS).

Or

Question based on Lower Order Thinking Skills (LOTS).

(Internal choice only i.e. both questions should be from same module)

Q8. Question based on Higher Order Thinking Skills (HOTS).

Or

Question based on Higher Order Thinking Skills (HOTS).

(Internal choice only i.e. both questions should be from same module)

Please check that this question paper contains _____ questions and _____ printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages:]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester:.....

Name of Subject:

Subject Code:

Paper ID:

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part – A

[Marks: 02 each]

Q1.

- a) Question based on Low Order Thinking Skills (LOTS)
- b) Question based on Low Order Thinking Skills (LOTS)
- c) Question based on Low Order Thinking Skills (LOTS)
- d) Question based on Low Order Thinking Skills (LOTS)
- e) Question based on High Order Thinking Skills (HOTS)
- f) Question based on High Order Thinking Skills (HOTS)

Part – B

[Marks: 04 each]

- Q2.** Question based on Low Order Thinking Skills (LOTS)
- Q3.** Question based on Low Order Thinking Skills (LOTS)
- Q4.** Question based on Low Order Thinking Skills (LOTS)
- Q5.** Question based on High Order Thinking Skills (HOTS)
- Q6.** Question based on High Order Thinking Skills (HOTS)
- Q7.** Question based on High Order Thinking Skills (HOTS)

Part – C

[Marks: 12 each]

Q8. Question based on Low Order Thinking Skills (LOTS)

OR

Question based on Low Order Thinking Skills (LOTS)

Q9. Question based on High Order Thinking Skills (HOTS)

OR

Question based on High Order Thinking Skills (HOTS)

Note: Out of Q8 and Q9, one should be from part-A and other should be from Part-B of the syllabus.

Paper setter is requested to delete content of this text box, before taking printout.

Supporting Documents for Adopting Objective Evaluation
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Departmental level

Department of Civil Engineering

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

An Autonomous College Under UGC Act - 1956 [2(f) and 12(B)]
Affiliated to I.K.G. Punjab Technical University

No. NBA/104/21

Date: 21-02-2018

All HODs

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3.	Applying: Being able to use previously learned information in different situations or in problem solving. (Using Information in another familiar situation, Implementing, Carrying out, using, executing)	Creating: The ability to create or uniquely apply prior knowledge and/or skills to produce new and original thoughts, ideas, processes, etc. At this level, students are involved in creating their own thoughts and ideas. (Generating new ideas, Products, or ways of viewing things, Designing, Constructing, Planning, Producing, Inventing)

For more information, please refer <https://tlc.iitm.ac.in/PDF/Blooms%20Tax.pdf>

Institutional Coordinator Accreditation (NBA)

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2. Dean Academics
3. Office Copy

Guru Nanak Dev Engineering College, Ludhiana
(An Autonomous Institute)
Civil Engineering Department

No. CE 2004

Dated 28/2/18

NBA Coordinator,

A departmental level Committees of following members to scrutinize the quality of MST question papers is constituted.

Chairman: Dr.K.S.Gill (Prof and Head)

Deptt. NBA I/C : Prof.Inderpreet Kaur (Convenor)

Following faculty were also a part of committee as Course coordinator, Subject Expert and Module Coordinators for the subjects listed below.

S.No	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1	Structural Analysis-I	4	Dr.Jagbir Singh	Dr.Harvinder Singh	Dr.Harvinder Singh
2	CMWM	4	Prof Harjinder Singh	Dr.Harjinder Singh	Dr.Gurdeepak Singh
3	DCS-I	4	Prof Charnjeet Singh	Prof.Inderpreet Kaur	Dr.Harvinder Singh
4	Irrigation Engg.-I	4	Prof Pritpal Kaur	Prof Amandeep Singh	Prof Harjinder Singh
5	Fluid Mech. II	4	Prof.Kulwinder Singh	Prof Prashnat Garg	Prof Harjinder Singh
6	Geomatics	4	Prof Ajitpal Singh	Dr.B.S.Walia	Dr.B.S.Walia
7	DCS-II	6	Prof Inderpreet Kaur	Dr.Harvinder Singh	Dr.Harvinder Singh
8	PMM	6	Prof Ajit Pal Singh	Dr.Harjinder Singh	Dr.Gurdeepak Singh
9	Professional Practice	6	Prof. Amandeep Singh	Prof Gurbuneet Singh	Prof.Harjinder Singh
10	Foundation Engg.	6	Prof.Gagandeep Kaur	Dr.B.S.Walia	Dr.K.S.Gill
11	Environment Engg.-II	6	Prof.Gagandeep Kaur	Prof.Pritpal Kaur	Dr.Puneet Pal Singh
12	Elements of Earthquake Engineering	8	Prof.Gurbir Kaur	Prof.Inderpreet Kaur	Dr.Harvinder Singh
13	Irrigation Engg-II	8	Prof.Pritpal Kaur	Prof. Amandeep Singh	Prof.Harjinder Singh
14	Prestressed Concrete	8	Prof.Sukhwinder Singh	Dr.Harpal Singh	Dr.Harvinder Singh
15	Pavement Design	8	Prof. Prashant Garg	Prof.K.S.Gill	Prof. Prashant Garg
16	Matrix Method of SA	8	Dr.Harvinder Singh	Dr.H.S.Rai	Dr.Harvinder Singh
17	Hydrology & Dams	8	Prof.Gurbuneet Singh	Prof.Harjinder Singh	Prof.Harjinder Singh
18	Ground Improvement	8	Dr.Gurdeepak Singh	Prof.Harjinder Singh	Dr.K.S.Gill
19	Earth Retaining Structures	8	Dr.B.S.Walia	Dr.K.S.Gill	Dr.K.S.Gill
20	Design of steel structures - II	8	Dr.Jagbir Singh	Dr.Jagbir Singh	Dr.Harvinder Singh
21	Transportation Engg-II	8	Prof.Charnjeet Singh	Prof.Pardeep Singh	Prof. Prashant Garg

M.Tech. (Geotechnical Engg.)

S.No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1	Design of Highway and Airport Pavements	2	Prof.Prashant Garg	Dr.K.S.Gill	Dr.K.S.Gill
2	Advanced Foundation Engg.	2	Dr.K.S.Gill	Dr.B.S.Walia	Dr.B.S.Walia
3	Soil Dynamics	2	Prof.Amandeep Singh	Dr.B.S.Walia	Dr.B.S.Walia
4	Research Methodology	2	Dr.Gurdeepak Singh	Prof.Inderpreet Kaur	Dr.Gurdeepak Singh
5	Numerical Method	2	Dr.H.S.Rai	Prof.Inderpreet Kaur	Prof.Inderpreet Kaur

M.Tech (Structural Engg.)

S.No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1	Plastic analysis & Design of Steel Structures	2	Prof.Sukhwinder Singh	Dr.Harvinder Singh	Dr.Harpal Singh
2	Earthquake Resistant Design of Masonry and RC Buildings	2	Prof.Gubir Kaur	Prof.H.S.Rai	Dr.Harpal Singh
3	Bridge Engineering	2	Dr.Harpal Singh	Dr.Jagbir Singh	Dr.Harpal Singh

M.Tech (Environmental Engg)

S.No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1	Pollution Monitoring Techniques	2	Dr.A.K.Sodi	Dr.Puneet Pal Singh	Dr.Puneet Pal Singh
2	Air Pollution and Control	2	Prof. Preetinder Kaur	Dr.Puneet Pal Singh	Dr.Puneet Pal Singh
3	Biological Treatment Methods	2	Dr.Puneet Pal Cheema	Dr.A.K.Sodi	Dr.Puneet Pal Singh

K.S.Gill
Dr.K.S.Gill
HOD,(CE)

Guru Nanak Dev Engineering College, Ludhiana
Department of Civil Engineering

Program	B. Tech.(Civil Engineering)	Semester	4 th
Subject Code	CE-14403	Subject Title	Design of Concrete Structures-I
MST No.	1	Course Coordinators	Harvinder Singh, Charnjeet Singh, Amandeep S. Gill
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	7 th March, 2018	Write your Roll Number	

Note: Attempt all questions

Q. No.	Questions	COs, RBT level*	Marks
Q1	What do you mean by an over-reinforced RC beam section?	CO2, L1	2
Q2	How would you obtain a compression stress-block for a RC beam section?	CO4, L4	2
Q3	Describe the strain-compatibility method used to analyze the RC beam sections. Also, draw a flow chart to illustrate the analysis procedure using this technique.	CO5, L3	4
Q4	Determine the balanced percentage tensile steel area for a rectangular beam section cast using M25 concrete and Fe 500 grade steel rebars.	CO4, L3	4
Q5	Design a rectangular beam section to support a uniform distributed load of 35 kN/m (without self weight). It is acting over the entire 6 m beam span. The beam is simply supported at its ends. Use M20 concrete and Fe 415 grade steel rebars.	CO6, L6	4
Q6	<p>a) Determine the ultimate flexural capacity of a rectangular beam section (300 mm wide, 550 mm effective depth). It is reinforced with 2 layers of the tensile rebars; lower one consists of 4-20 dia. and 2-16 dia. are provided in the 2nd layer. The beam is cast using M25 concrete and Fe 500 grade steel rebars.</p> <p>b) What will be the change in the beam flexural capacity, if the 2-16 dia. rebars in the part (a) are shifted to the compression zone of the beam? Take effective cover to the compression steel as 35 mm. Assume that the other beam parameters are the same in both cases.</p>	CO6, L5	8

Course Outcomes (CO): The students will be able to

1	Identify the quality control tests on concrete making materials.
2	Understand the behavior and the durability aspects of the concrete / section under different loading and exposure conditions.
3	Design the concrete mixes as per various mix techniques.
4	Apply the stress-strain response of steel and concrete in the design of various RC elements.
5	Compare the fundamental concepts of different design philosophies available for RC elements.
6	Execute the solution using a logic and structured approach based on Limit State Method and IS code provisions for various RC elements, such as beams, slabs and stairs.

RBT Classification*	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M.Tech.(SE)	Semester	2
Subject Code	MTST-16502	Subject Title	Bridge Engineering
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Dr. Harpal Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	March, 2018	Roll Number	

Note: 1. Attempt all the questions.
 2. All questions carry equal marks
 3. Use of IRC 6: 2014 is allowed

Q. No.	Question	COs, RBT level	Marks
Q1	Describe Piguerd's Method	CO4, L2	5
Q2	Describe the load distribution theories for the longitudinal girders in a bridge deck.	CO4, L5	5
Q3	For a T-Beam bridge with the following data: Effective span = 20m; Width = 2 lanes Live load as per IRC Materials M-25 concrete and Fe-415 steel Number of main girders = 3; Spacing of cross girders = 3m Design a. An intermediate panel of slab b. Cantilever portion of slab	CO4, L3	10
Q4	Design intermediate Girder for the above bridge	CO5, L6	10

Course Outcomes (CO)

Students will be able to

1	Students will learn classification layout, planning of bridges
2	Students will be able to understand and apply IRC loads
3	Students will be able to design superstructure of bridges.
4	Students will be able to design substructure of bridges
5	Students will be able to design foundation of bridges.
6	Students will be able to inspect and rehabilitate the bridges.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	6
Subject Code	DECE-14607	Subject Title	Reinforced Earth and Geotextiles
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Charnjeet Singh
Maximum Marks	24	Time Duration	1 hour 30 minutes
Date of MST	5 th March, 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Enlist the favorable basic characteristics of the geosynthetics material.	CO1, L2	2
Q2	Calculate the porosity of the geotextile with the properties: thickness as 2.7mm, mass per unit area as 300g/m ² and density of the polymer solid as 900kg/m ³ .	CO4, L5	2
Q3	Briefly explain different type of geosynthetics with example of application area.	CO3, L3	4
Q4	What are the various reinforcing mechanisms performed by the geosynthetics? Explain briefly.	CO1, L2	4
Q5	How will you decide the primary function of geosynthetics as reinforcement or separation in any field application?	CO2, L4	4
Q6	a) Explain about the permeability characteristics of the geosynthetics. b) In a laboratory constant head cross-plane permeability test on 300 mm length (flow direction) by a 200 mm wide geotextile specimen, the following parameters were measured: Nominal Thickness = 2.6 mm, Head loss in plane of the geotextile = 150 mm, Flow rate of water normal to the plane of geotextile = 68 cm ³ /s Evaluate the Transmittivity and the in-plane coefficient of permeability of geotextile.	CO4, L5	4 4

Course Outcomes (CO)

Students will be able to

1	Understand the principle of reinforced earth and different types of reinforcement techniques.
2	Identify the types and functions of geosynthetics.
3	Compare the different geosynthetics products for different construction projects.
4	Identify the testing methods for geosynthetics.
5	Compare natural and artificial geosynthetics.
6	Design of paved and unpaved roads, embankments and retaining walls with different types of geosynthetics.

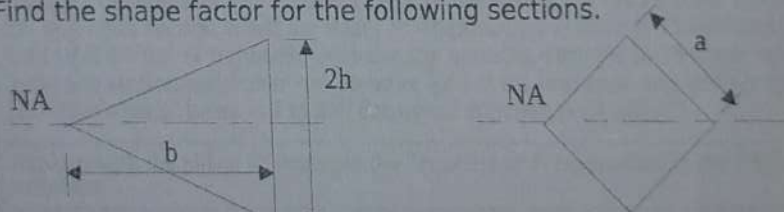
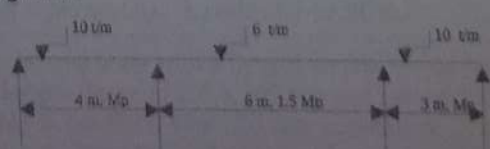
RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	M.Tech.(CE)	Semester	2
Subject Code	MTST-506	Subject Title	Plastic Analysis and Design of Steel Structures
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Sukhwinder Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	5 th March, 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Compute the reserve strength of a fixed beam of uniform section subjected to a single concentrated load in the middle assuming the shape factor value equal to 1.14.	CO1, L4	5
Q2	Find the shape factor for the following sections. 	CO1, L4	5
Q3	State the upper and lower bound theorems. Demonstrate the same with the aid of a fixed beam of uniform section subjected to a single concentrated load in the middle.	CO2, L2	10
Q4	A continuous beam ABCD is loaded as shown in figure. Determine the collapse load in case a) The beam is of uniform section. b) The beam is of unequal section. The value of M_p for BC is 1.5 times that of AB and CD. Compute also the load factor and draw plastic bending moment diagram. 	CO4, L4	10

Course Outcomes (CO)

Students will be able to

- | | |
|---|---|
| 1 | Students will learn to concepts of plastic design |
|---|---|

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8
Subject Code	DECE-14808	Subject Title	Pre-stressed Concrete
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Sukhwinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	7 th March, 2018	Roll Number	

Note: IS 1343 is permitted in examination.

Q. No.	Question	COs, RBT level	Marks
Q1	Sketch the stress distribution diagram in propped prestressed concrete beam.	CO2, L2	2
Q2	What is partial prestressing?	CO2, L1	2
Q3	A rectangular concrete beam of cross-section 500 x 300 mm is prestressed by means of 15 wires of 5 mm diameter located at 90 mm from the soffit of the beam and 3 wires of 5 mm diameter, 25 mm from the top. Assuming the prestress in steel as 1000 N/mm ² , calculate the stresses at the extreme fibres at the mid-span section when the beam is supporting a uniformly distributed live load of 6 kN/m ² is imposed. Evaluate the working stresses in concrete at the mid-span section and locate the pressure line at the mid span and quarter span. Effective span of beam is 7 m and density of concrete is 24 kN/m ³ .	CO3, L3	4
Q4	Explain with the aid of an example the "concept of Pressure-line in the PSC members".	CO2, L2	4
Q5	A simple beam of span 10m is carrying a UDL of 30 kN/m over the entire length. The cross-section of the beam is 300 x 900 mm. Determine the loss of the jacking force due to following factors and then, determines the effective prestress in the beam section. a) Shrinkage, b) Creep, c). Relaxation, d). Elastic shortening of the member due to jacking force of 2000 kN Grade of concrete M 60. The beam was water cured for 30 days and jacking force was applied at 50 days through bonded tendons (3600 mm ²). Tendons were stretched at 0.7%. Relative humidity at the time of curing was 80% and during the prestressing operations, it reduces to 60%.	CO3, L4	4
Q6	For the post-tensioned beam with a flanged section having top flange of 500 x 200 mm and bottom flange of 250 x 200 mm and web of 600 x 150 mm. The profile of cable is parabolic with 350 mm eccentricity at mid span and no eccentricity at ends. The Live load moment due to service loads at mid span is 648 kNm. The prestress after transfer (P _o) is 1600 kN. Assume 15% loss at service. grade of concrete is M30. Evaluate the following quantities	CO3, L5	8

a) Kern levels b) Cracking moment c) Location of pressure line at mid-span at transfer and at service. d) The stresses at the top and bottom fibres at transfer and at service. Compare the stresses with the following allowable stresses at transfer and at service. For compression, $f_{cc,all} = -18.0 \text{ N/mm}^2$, For tension, $f_{ct,all} = 1.5 \text{ N/mm}^2$.		
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Course Outcomes (CO)

Students will be able to

1	Understand the material characteristics of structural materials, such as high strength concrete and high strength steel, etc.
2	Understand and apply the concept and terminology related to the prestressed concrete.
3	Analyze the beam sections carrying the prestressed force, external loads and time- dependant effects, such as creep, shrinkage and other losses.
4	Evaluate and interpret the use of different prestressing systems on the PSC beams.
5	Design prestressed concrete beams and slabs for flexure, shear and torsion.
6	Apply various provisions prescribed by IS 1343 to the design of prestressed concrete members.

RBT Classificat ion	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remember ing	Understan ding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8
Subject Code	DECE-14808	Subject Title	Pre-stressed Concrete
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Sukhwinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	4 th May, 2018	Roll Number	

Note: IS 1343 is permitted in examination.

Q. No.	Question	COs, RBT level	Marks
Q1	Discuss in detail about the load balancing approach used for the designing PSC members.	CO2, L2	2
Q2	Discuss and explain strain-compatibility method used in estimating the ultimate flexural capacity of the prestressed concrete members. Use some example to illustrate the procedural steps.	CO2, L3	2
Q3	An unsymmetrical I-section bridge girder has the following sectional properties. Area of cross-section = $777 \times 10^3 \text{ mm}^2$, second moment of area = $22 \times 10^{10} \text{ mm}^4$, width and thickness of top flange = 1200 and 360 mm respectively and thickness of web = 240 mm. The centroid of section located at 580 mm from the top. The girder is used over a span of 40 m. The tendons with cross-section of 700 mm^2 are parabolic with an eccentricity of 1220 mm at centre span and zero at the supports. The effective prestress in the wire is 800 N/mm^2 . If the tensile strength of concrete is 4.5 N/mm^2 , estimate the ultimate shear resistance of the section assuming to failure take place when the principal tensile stresses reaches a value equal to the tensile strength of the concrete.	CO3, L4	4
Q4	A high tension cable comprising of 12 strands of 15 mm diameter (12 K15 of P.S.C. Freyssinet systems) with an effective force of 2500 kN is anchored concentrically in an end block of post-tensioned beam. The end block is 400 mm wide and 800 mm deep and the anchor plate is 200 mm wide by 260 mm deep. Design suitable anchoring zone reinforcement using Fe415 grade HYSD bars using IS 1343 code provisions.	CO5, L5	4
Q5	A concrete beam having a rectangular section 100 mm wide and 300 mm deep is prestressed by a parabolic cable carrying an initial force of 240 kN. The cable has an eccentricity of 50 mm at the center of span and is concentric at supports. If the span of the beam is 10 m and the beam supports a live load of 2 kN/m, estimate the short time deflection at the centre span. Assuming $E = 38 \text{ kN/mm}^2$ and creep coefficient = 2.0, loss of prestress = 20% of initial stress after 6 months. Estimate the long time deflection at the center of span at this stage, assuming that the dead and live loads are simultaneously applied after the release of prestress.	CO3, L4	4

Q6	Design for the beam section with $M_T = 434$ kN-m. The overall height of the beam is 914.4 mm. The effective prestress for steel = 862 N/mm^2 , and allowable stress for concrete under working load = -11.03 N/mm^2 .	CO6, L6	8
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Course Outcomes (CO)

Students will be able to

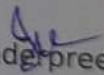
1	Understand the material characteristics of structural materials, such as high strength concrete and high strength steel, etc.
2	Understand and apply the concept and terminology related to the prestressed concrete
3	Analyze the beam sections carrying the prestressed force, external loads and time- dependant effects, such as creep, shrinkage and other losses.
4	Evaluate and interpret the use of different prestressing systems on the PSC beams.
5	Design prestressed concrete beams and slabs for flexure, shear and torsion.
6	Apply various provisions prescribed by IS 1343 to the design of prestressed concrete members.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana
Civil Engineering Department

Report

1. With reference to office circular CE-2004 dated 28.02.2018, the meeting was held to scrutinize the quality of question papers for MST. Total 32 different question papers as per study scheme were analyzed for semester Jan-Jun 2018.
2. The subject expert ensured that the test was made according to the Bloom Taxonomy and template.
3. There were minor mistakes regarding providing the RBT Levels in Foundation Engineering and Earthquake Engineering Design of Masonry & RC Buildings
4. Later the corrections were made with the recommendations of Module Coordinator.


Prof. Indpreet Kaur
Deptt. NBA I/O

CC:

1. HOD for information
2. File Record

Guru Nanak Dev Engineering College, Ludhiana
Civil Engineering Department

HOD

With reference to letter no. NBA/104/21 dated 21-02-2018, A department level committee of following members is constituted to scrutinize the quality of MST question papers.

Chairman: Dr K. S. Gill (Prof. and Head)

Deptt NBA I/C: Prof. Inderpreet Kaur (Convener)

Following faculty members are also a part of committee as Course coordinator, Subject Expert and Module Coordinators for the subjects listed below for session Aug – December 2018:

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Building Material & Construction	3	Prof. Gagandeep Kaur Grewal	Prof. Inderpreet Kaur	Dr. Harvinder Singh
2.	Fluid Mechanics-I	3	Prof. Ajitpal Singh	Prof. Tanu	Prof. Prashant Garg
3.	Strength of Materials	3	Dr. H.S. Rai	Dr. Jagbir Singh	Dr. Harpal Singh
4.	Surveying	3	Prof. Pardeep Singh	Dr. B.S.Walia	Dr. B.S.Walia
5.	Rock Mechanics & Engineering Geology	3	Prof. Tanpreet Singh	Prof. Bhupinder Singh	Dr. B.S.Walia
6	Environmental Engineering -I	5	Prof. Gagandeep Kaur Grewal	Prof. Pritpal Kaur	Dr. Puneetpal Singh Cheema
7	Transportation Engineering -I	5	Prof. Charnjeet Singh	Prof. Pardeep Singh	Prof. Prashant Garg
8	Structure Analysis -II	5	Prof. Amandeep Singh Gill	Dr. Harvinder Singh	Dr. Jagbir Singh
9	Geotechnical Engineering	5	Prof. Heena Malhotra	Dr. B.S. Walia	Dr. K.S. Gill
10	Design of Steel Structures-I	5	Prof. Sukhwinder Singh	Dr. Jagbir Singh	Dr. Harpal Singh
11	Irrigation Engineering II	7	Prof. Sandeep Kaur	Prof. Pritpal Kaur	Prof. Prashant Garg
12	Design of Steel Structures-II	7	Dr. Jagbir Singh	Dr. Harvinder Singh	Dr. Harpal Singh
13	Elements of Earthquake Engineering	7	Prof. Tanpreet Singh	Prof. Yuvraj Singh	Dr. Harvinder Singh
14	Transportation Engineering-II	7	Prof. Pardeep Singh	Prof. Heena Malhotra	Prof. Prashant Garg
15	Hydrology and Dams	7	Prof. Sandeep Kaur	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
16	Earth and Earth Retaining Structures	7	Dr. Gurdeepak Singh	Dr. K.S. Gill	Dr. B.S. Walia
17	Ground Improvement Techniques	7	Prof. Harjinder Singh	Prof. Prashant Garg	Dr. Gurdeepak Singh
18	Pre-stressed Concrete	7	Prof. Sukhwinder Singh	Prof. Amandeep Singh	Dr. Harvinder Singh
19	Matrix methods of Structural Analysis	7	Prof. Amandeep Singh	Prof. Sukhwinder Singh	Dr. K.S. Gill
20	Pavement Design	7	Prof. Prabhjot Singh	Prof. Prashant Garg	Dr. Gurdeepak Singh

M.Tech (Geotechnical Engineering)

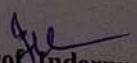
S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Geosynthetic Engineering	1	Prof. Charnjeet Singh	Dr. B.S. Walia	Dr. K.S. Gill
2.	Site Investigations	1	Prof. Prashant Garg	Prof. Prashant Garg	Dr. K.S. Gill
3.	Applied Soil Mechanics	1	Dr. B.S. Walia	Dr. B.S. Walia	Dr. Gurdeepak Singh
4.	Analysis of Settlement of Soils & Foundations	1	Prof. Amandeep Singh	Prof. Prashant Garg	Dr. B.S. Walia
5.	Earthen Embankment	1	Prof. Gurbuneet Singh	Dr. K.S. Gill	Dr. B.S. Walia
6.	Ground Improvement	3	Dr. Gurdeepak Singh	Dr. K.S. Gill	Dr. Gurdeepak Singh

M.Tech (Structural Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Structural Dynamics	1	Prof. Inderpreet Kaur	Dr. Jagbir Singh	Dr. H.S. Rai
2.	Analysis of Plates, Shells and Grids	1	Dr. Harpal Singh	Dr. Harvinder Singh	Dr. Harpal Singh
3.	Advanced Solid Mechanics & Structural Analysis	1	Dr. Harvinder Singh	Prof. Inderpreet Kaur	Dr. Jagbir Singh
4.	Finite Element Methods	1	Prof. Yuvraj Singh	Dr. Harpal Singh	Dr. H.S. Rai
5.	Pre-stressed Concrete Structures	1	Prof. Sukhwinder Singh	Dr. Jagbir Singh	Dr. Harvinder Singh
6.	High Rise Building	3	Prof. Gurbir Kaur	Prof. Inderpreet Kaur	Dr. Harpal Singh

M.Tech (Environmental Science and Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Physico-Chemical Treatment Methods	1	Dr. Puneetpal Singh Cheema	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
2.	Environmental Chemistry and Microbiology	1	Prof. Rajwinder Singh	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
3.	Solid and Hazardous Waste Management	1	Prof. Rajwinder Singh	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
4.	Environmental Impact Assessment and Management	1	Prof. Sukhwinderpal Singh	Prof. Rajwinder Singh	Dr. Puneetpal Singh Cheema
5.	Industrial Waste Management	1	Prof. Rajwinder Singh	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
6.	Environmental Systems Engineering	3	Dr. Puneetpal Singh Cheema	Dr. Puneetpal Singh Cheema	Dr. Puneetpal Singh Cheema


Prof. Inderpreet Kaur
 Deptt. NBA I/C (Convener)

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	M.Tech. (SE)	Semester	1
Subject Code	MTST- 16607	Subject Title	Pre-stressed Concrete Structures
Mid Semester Test No.	1	Course Coordinator(s)	Sukhwinder Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	Sep, 2018	Roll Number	

Note: IS 1343 is permitted in examination, Assume any relevant data if missing.

Q. No.	Question	COs, RBT level	Marks
Q1	An unsymmetrical I-section bridge girder has the following section properties: Width and thickness of the top flange = 1200 and 360 mm respectively, thickness of web = 240 mm, centroid of section located at 580 mm from the top, the girder is used over a span of 40 m, and the tendons (bonded) with a cross-section of 7000 mm ² are parabolic with an eccentricity of 1220 mm at the centre of the span and zero at the supports. Given $f_{cu} = 45$ MPa and $f_{pu} = 1700$ N/mm ² , estimate the ultimate flexural strength of the centre-of-span section using IS 1343: 2012 provisions	CO4, L5	10
Q2	For the post-tensioned beam with a flanged section having top flange of 500 x 200 mm and bottom flange of 250 x 200 mm and web of 600 x 150 mm. The profile of cable is parabolic with 350 mm eccentricity at mid span and no eccentricity at ends. The Live load moment due to service loads at mid span is 648 kNm. The prestress after transfer (P_o) is 1600 kN. Assume 15% loss at service. grade of concrete is M30. Evaluate the following quantities a) Kern levels b) Cracking moment c) Location of pressure line at mid-span at transfer and at service. d) The stresses at the top and bottom fibres at transfer and at service. e) Compare the stresses with the following allowable stresses at transfer and at service. For compression, $f_{cc,all} = -18.0$ N/mm ² , For tension, $f_{ct,all} = 1.5$ N/mm ² .	CO2, L4	10
Q3	An unsymmetrical I-section bridge girder has the following sectional properties. Area of cross-section = 777×10^3 mm ² , second moment of area = 22×10^{10} mm ⁴ , width and thickness of top flange = 1200 and 360 mm respectively and thickness of web = 240 mm. The centroid of section located at 580 mm from the top. The girder is used over a span of 40 m. The tendons with cross-section of 700 mm ² are parabolic with an eccentricity of 1220 mm at centre span and zero at the supports. The effective prestress in the wire is 800 N/mm ² . If the tensile strength of concrete is 4.5 N/mm ² , estimate the ultimate shear resistance of the section assuming to failure take place when the principal tensile stresses reaches a value equal to the tensile strength of the concrete.	CO2, L5	10

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	M.Tech.(SE)	Semester	2
Subject Code	MTST-16503	Subject Title	Analysis of Plate, Shells and Grids
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Harpal Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	Sept., 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	If at section in a plate, the moments are M_x , M_y and M_{xy} , find the expression for normal moment and twisting moment at an angle α .	CO1, L2	5
Q2	Prove that the sum of the bending moments acting on mutually perpendicular planes is constant.	CO1, L5	5
Q3	A circular plate of radius a carries a uniform load of intensity q . Find w , w_{max} , M_r , M_θ and reactions, if a) its edges are clamped b) its edges are simply supported.	CO2, L3	10
Q4	Derive from the first principles the Langrenge's Equation for deflected surface of a laterally loaded plate of uniform flexural rigidity.	CO3, L6	10

Course Outcomes (CO)

Students will be able to

1	Students will learn to Plate equation in Cartesian and polar coordinates
2	Students will be able analyze rectangular and circular plates with different boundary conditions and loads
3	Students will be able to apply the concepts rectangular and circular plates with different boundary conditions and loads
4	Students will be able analyze various grid systems for roofing system and bridge decks.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understandin g	Applyin g	Analyzin g	Evaluatin g	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8
Subject Code	BTCE-801	Subject Title	Design of Steel Structures-II
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Harpal Singh Dr. Jagbir Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Sept., 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Write a short note on columns, beams and beam-column.	CO1, L2	2
Q2	Differentiate members donated by ISMB-250 and ISMC-250. Which section will have higher moment of resistance and why?	CO2, L2	2
Q3	Compute the design flexural strength of a plate girder which consists of an 8x1200 mm web and 30x450 mm flanges. Use grade 410 steel and assume that the compression flange is continuously supported.	CO2, L3	4
Q4	A welded plate girder is fabricated from two 600x35 mm flange plates and 1300x12 mm web plate of grade 410 steel. Determine the shear capacity if no stiffeners are used.	CO3, L5	4
Q5	Calculate the design moments and shears for the gantry girder using fy310 grade steel for following design constraints. A 75mm monorail section was used to move the crane along the width of a building. a) Crane capacity: 175 kN; Weight of crab including hook etc: 5 kN b) End clearance: 2m; Wheel base: 1.5m c) Self weight and span of the crane: 2kN/m, and 18m respectively. e) c/c spacing of supporting columns: 6m	CO3, L6	4
Q6	Design gantry girder given in problem No. 5.	CO4, L6	8

Course Outcomes (CO)

Students will be able to

1	Students will learn to consider various primary loads, load combinations for obtaining a worst design load.
2	Students will be able to plan the structural framing of industrial buildings and bridges from the given data/design constraints..
3	Students will be able to apply the concepts of structural design to obtain suitable member sizes/sections.
4	And will be able to prepare and deliver rough sketches to the draftsman etc.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	5
Subject Code	CE-14504	Subject Title	Transportation Engineering-I
Mid Semester Test	1	Course Coordinator(s)	Charnjeet Singh, Mandeep Kaur, Tanu
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	26/09/2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Enlist the different types of road patterns adopted in India. Illustrate star and grid pattern with suitable example of city/area.	CO1, L3	2
Q2	Design parabolic camber template for a two-lane bituminous concrete pavement in a heavy rainfall area with recommended camber of 1 in 48. Draw neat sketch of camber template.	CO2, L6	2
Q3	Discuss the special considerations to be taken care while alignment of highway in hilly area.	CO2, L2	4
Q4	How do you evaluate the bearing strength of subgrade material in lab? Discuss the significance of test w.r.t designing aspect.	CO3, L3	4
Q5	A falling gradient of 1 in 80 meets a rising gradient of 1 in 120 on a highway with a design speed of 80 kmph. Calculate length of the curve, distance of lowest point from beginning of the curve and minimum impact factor.	CO2, L5	4
Q6	A state highway passing through a plain terrain has horizontal curve of radius equal to ruling minimum radius for design speed of 80 kmph. Design all geometric features of this curve assuming suitable data. Specify the minimum setback distance from centre line of two lane highway on inner side of curve up to which building should not be constructed. Assume length of curve greater than non-passing sight distance.	CO2, L5	8

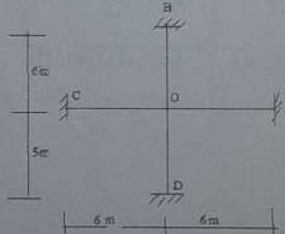
Course Outcomes (CO) Students will be able to

- 1 Appreciate the importance of different modes of transportation and characterize the road transportation.
- 2 Align and design the geometry of pavement as per Indian Standards according to topography.
- 3 Assess the properties of highway materials in laboratory.
- 4 Understand the importance of drainage, construction methods for various roads, pavement failure and its maintenance.
- 5 Compute the transportation cost of highway project and outline the sources of highway financing.
- 6 Interpret the traffic data after conducting traffic survey and describe the traffic characteristics, traffic safety and traffic environment interaction.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M.Tech.(SE)	Semester	2
Subject Code	MTST-16503	Subject Title	Analysis of Plate, Shells and Grids
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Dr. Harpal Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	Nov., 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Obtain Navier's type solution for a simply supported rectangular plate subjected to a uniformly distributed load.	CO2, L2	5
Q2	Derive the basic equation for an orthotropic plate from first principles.	CO2, L5	5
Q3	Design a concrete grid floor to cover rectangular panel of an office floor 15m x 8m. Superimposed load may be taken as 3 kN/m ² . The ribs are spaced 'h' in x-direction and 'k' in y-direction. Where 'h' = 3.0m and 'k' = 1.0m. Also estimate the cost of the floor.	CO3, L3	10
Q4	Determine the degree of freedom of the grid shown below. Select a suitable system of coordinates and develop the stiffness matrix. The members are 300mm wide and 600mm in depth $E = 1200 \text{ kN/cm}^2$, $G = 500 \text{ kN/cm}^2$, AC and BD are connected at O. 	CO4, L6	10

Course Outcomes (CO)

Students will be able to

1	Students will learn to Plate equation in Cartesian and polar coordinates
2	Students will be able analyze rectangular and circular plates with different boundary conditions and loads
3	Students will be able to apply the concepts rectangular and circular plates with different boundary conditions and loads
4	Students will be able analyze various grid systems for roofing system and bridge decks.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M.Tech.(CE)	Semester	3 rd
Subject Code	MAC-102	Subject Title	Disaster Reduction Management
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Manvinder Kingra, Sahibdeep Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	Nov, 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Describe both positive as well as negative role of media in effective disaster management	CO1, L2	5
Q2	Explain the various type of failure in structure during bhuj earthquake.	CO3, L5	5
Q3	Explain the following:- i) Disaster Risk Reduction ii) Remote Sensing	CO4, L3	10
Q4	What is the Concept and Strategies of Disaster Mitigation.	CO4, L6	10

RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8
Subject Code	BTCE-801	Subject Title	Design of Steel Structures-II
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Dr. Harpal Singh Dr. Jagbir Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Nov., 2018	Roll Number	

Note: Missing data, if any, may be assumed suitably.

Use of railway Codes, IS: 800-2007, SP: 6(1) / steel table is allowed.

Q. No.	Question	COs, RBT level	Marks
Q1	Draw a sketch showing various type of mill bents.	CO1, L2	2
Q2	What are the loadings considered in the design of foot bridge?	CO1, L2	2
Q3	A foot bridge having N girder and timber flooring has the following data: Effective span = 18m c/c distance between main girders = 3.5m LL = 6 kN/m ² Allowable stresses as per IS codes. Use welded connections. Design the flooring.	CO2, L3	4
Q4	For above Foot Bridge Design the the cross girder.	CO3, L5	4
Q5	Calculate the design moments and shears for the gantry girder using fy310 grade steel for following design constraints. A 75mm monorail section was used to move the crane along the width of a building. a) Crane capacity: 175 kN; Weight of crab including hook etc: 5 kN b) End clearance: 2m; Wheel base: 1.5m c) Self weight and span of the crane: 2kN/m, and 18m respectively. e) c/c spacing of supporting columns: 6m	CO3, L6	4
Q6	Design gantry girder given in problem No. 5.	CO4, L6	8
Course Outcomes (CO) Students will be able to			
1	Students will learn to consider various primary loads, load combinations for obtaining a worst design load.		
2	Students will be able to plan the structural framing of industrial buildings and bridges from the given data/design constraints..		
3	Students will be able to apply the concepts of structural design to obtain suitable member sizes/sections.		
4	And will be able to prepare and deliver rough sketches to the draftsman etc.		

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Information Technology

Program	B.Tech.(CIVIL)	Semester	5
Subject Code	BTCE-501	Subject Title	Design of Steel Str-1
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Gurbir Jawanda, Amritpal Kaur, Sukhwinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	0	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Write short notes on HSFG bolts and bearing bolts	CO1, L1	2
Q2	Explain prying action with diagram.	CO1, L4	2
Q3	A member of a truss consists of two angles ISA 100 x 100 x 8 placed back to back. It carries an ultimate tensile load of 800 kN and is connected to a gusset plate 8 mm thick placed in between the two connected legs. Determine the number of 18 mm diameter grade 5.6 black bolts required at the joint. Take ultimate strength of plate as 410 N/mm ² .	CO2, L5	4
Q4	Design a fillet weld to connect ISA 65x45x8 mm with 12 mm thick gusset plate. The member carries a tensile load of 100Kn.	CO2, L6	4
Q5	Design a double cover butt joint to connect two plates, each 12 mm thick and 300 mm wide. The service load to be transferred is 200 kN.	CO2, L6	4
Q6	Design a bracket connection to transfer an end reaction of 250 kN due to factored loads. The end reaction from the girder acts as an eccentricity of 300 mm from the face of the column flange. Design bolted joint connecting Tee- flange with the column flange. Steel is of grade 4 Fe 410 and bolts of grade 4.6.	CO4, L6	8

Course Outcomes (CO)

Students will be able to


1	Understand and appreciate various aspects of steel construction like different types of steel sections
2	Analyse and design various types of steel connections using rivets
3	Design basic elements of a steel building like beam
4	Estimate 'design loads' for a roof truss and then be able to design its various components like top chord members
5	Design steel members subjected to tension and compression
6	

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6

Guru Nanak Dev Engineering College, Ludhiana
Civil Engineering Department

Report of committee

1. The meeting was held to scrutinize the quality of question papers for MST. As per study scheme for semester July-Dec 2018, 38 courses were offered in the semester and same were analyzed.
2. Convener and the subject experts analyzed the papers and ensured that the papers were satisfying the norms of Bloom Taxonomy and template.
3. Minor mistakes were there in format of some question papers which were corrected according to the template format recommended. Also, there were mistake with the Learning level mentioned in Pre-stressed Concrete and Design of Steel Structures-II which were corrected before the examination.


Prof. Underpreet Kaur
Deptt. NBA I/O
Civil Engineering Department

CC: HOD for information

HOD

With reference to letter no. NBA/104/21 dated 21-02-2018, A department level committee of following members is constituted to scrutinize the quality of MST question papers.

Chairman: Dr K. S. Gill (Prof. and Head) and **Deptt NBA I/C:** Prof. Inderpreet Kaur (Convener)

Following faculty members are also a part of committee as Course coordinator, Subject Expert and Module Coordinators for the subjects listed below for session January – June 2019:

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Structural Analysis-I	4	Prof. Yuvraj Singh	Dr. Jagbir Singh	Dr. Harvinder Singh
2.	Fluid Mechanics-II	4	Prof. Sandeep Kaur	Prof. Pritpal Kaur	Prof. Prashant Garg
3.	Construction Machinery and Works Management	4	Prof. Sahibdeep Singh	Prof. Bhupinder Singh	Dr. Gurdeepak Singh
4.	Geomatics Engineering	4	Prof. Prabhjot Singh	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
5.	Irrigation Engineering -I	4	Prof. Sandeep Kaur	Prof. Pritpal Kaur	Prof. Prashant Garg
6.	Design of Concrete Structures-I	4	Prof. Mandeep Kaur	Prof. Ajitpal Singh	Dr. Inderpreet Kaur
7.	Design of Concrete Structures-II	6	Prof. Amandeep Singh	Dr. Inderpreet Kaur	Dr. Harvinder Singh
8.	Professional Practice	6	Prof. Manvinder Kingra	Prof. Bhupinder Singh	Prof. Gurbuneet Singh
9.	Foundation Engineering	6	Prof. Pardeep Singh	Prof. Heena Malhotra	Prof. Prashant Garg
10.	Environmental Engg. II	6	Prof. Rajwinder Singh	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
11.	Reinforced Earth and Geotextiles	6	Prof. Pardeep Singh	Prof. Prashant Garg	Dr. Gurdeepak Singh
12.	Infrastructure Development and Management	6	Prof. Yuvraj Singh	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
13.	Numerical Methods in Civil Engineering	6	Dr. Inderpreet Kaur	Dr. Jagbir Singh	Dr. Harpal Singh
14.	Irrigation Engineering II	7	Prof. Sandeep Kaur	Prof. Gurbuneet Singh	Prof. Prashant Garg
15.	Design of Steel Structures-II	7	Dr. Jagbir Singh	Dr. Harvinder Singh	Dr. Harpal Singh
13	Elements of Earthquake Engineering	7	Prof. Tanpreet Singh	Prof. Sukhwinder Singh	Dr. Harvinder Singh
14	Transportation Engineering-II	7	Prof. Prabhjot Singh Pannu	Dr. Bhupinder Singh	Prof. Prashant Garg
15	Hydrology and Dams	7	Prof. Gurbuneet Singh	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
16	Earth and Earth Retaining Structures	7	Dr. Gurdeepak Singh	Dr. K.S. Gill	Dr. B.S. Walia
17	Ground Improvement Techniques	7	Prof. Charnjeet Singh	Prof. Prashant Garg	Dr. Gurdeepak Singh
18	Pre-stressed Concrete	7	Prof. Mandeep Kaur	Prof. Sukhwinder Singh	Dr. Harvinder Singh
19	Matrix methods of Structural Analysis	7	Dr. Harvinder Singh	Dr. Harpal Singh	Dr. Harvinder Singh
20	Pavement Design	7	Prof. Prashant Garg	Prof. Prashant Garg	Dr. Gurdeepak Singh

M.Tech (Geotechnical Engineering)

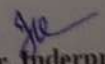
S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Design of Highway and Airport Pavements	2	Prof. Prashant Garg	Prof. Prashant Garg	Dr. Gurdeepak Singh
2.	Soil Dynamics	2	Prof. Amandeep Singh	Prof. Heena Malhotra	Prof. Prashant Garg
3.	Advanced Foundation Engg.	2	Prof. Charnjeet Singh	Prof. Heena Malhotra	Dr. Gurdeepak Singh
4.	Research Methodology	2	Dr. Gurdeepak Singh	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh

M.Tech (Structural Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Bridge Engineering	2	Dr. Harpal Singh	Dr. Jagbir Singh	Dr. H.S. Rai
2.	Research Methodology	2	Dr. Sukhwinder Singh	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh
3.	Plastic Analysis and Design of Steel Structures	2	Prof. Sukhwinder Singh	Dr. Harvinder Singh	Dr. Jagbir Singh
4.	Earthquake Resistant Design of Masonry and RC Building	2	Prof. Gurbir Kaur	Dr. Inderpreet Kaur	Dr. Harpal Singh

M.Tech (Environmental Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Pollution Monitoring Techniques	2	Prof. Rajwinder Singh	Dr. Puneetpal Singh Cheema	Dr. Puneetpal Singh Cheema
2.	Air Pollution and Control	2	Dr. Puneetpal Singh Cheema	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema
3.	Research Methodology	2	Dr. Gurdeepak Singh	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh
4.	Biological Treatment Methods	2	Dr. Puneetpal Singh Cheema	Prof. Sukhwinderpal Singh	Dr. Puneetpal Singh Cheema


 Dr. Inderpreet Kaur
 Deptt. NBA I/C (Convener)

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil engineering

Program	B.Tech.(Civil)	Semester	4
Subject Code	CE-14405 / 15375	Subject Title	Irrigation engineering 1
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Heena , Gurbir Kaur, Manvinder Kingra
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	25 th april, 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What is known by perched Aquifers?	CO4, L1	2
Q2	What is meant by "Meandering of rivers" and what are its causes?	CO5, L2	2
Q3	Explain the classification of Drains? Also mention its maintenance.	CO6, L4	4
Q4	Write down the design considerations for surface drains.	CO6, L3	4
Q5	A 30 cm diameter well penetrates 20 m below the static water-table. After 24 hours of pumping at 5000 litres per minute, the water level in a test well at 100 m away is lowered by 0.5 m and in a well at 30 m away, the drawdown is 1 m. what is the transmissibility of the aquifer?	CO4, L5	4
Q6	Data given below refers to Bell's Bund: High Flood Level – 206 m, low water bed level- 202 m, maximum scour depth – 9.5 m , Free board- 1.5 m , side slope of embankment – 2:1, Thickness of stone Apron when Launched – 40 cm. Determine the value of stone required per meter length of shank (assume 25% loss). Draw a neat sectional view of bank with necessary dimensions.	CO5, L4	8

Course Outcomes (CO)

Students will be able to

1	Identify the basic understanding of soil water plant relationship
2	Understand different irrigation techniques and the related theories
3	Apply different theories/methods to design lined and unlined canals.
4	Estimate the yield of tube-well using different formulae.
5	Design different hydraulic structures required for effective river training works.
6	Demonstrate the knowledge related to the water logging, losses, economics of lining, etc.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	B.Tech.(Civil)	Semester	4
Subject Code	CE-14401	Subject Title	Geomatics Engineering
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Prabhjot Singh, Sandeep Kaur, Milanpreet kaur
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	22 nd , April, 2019	Roll Number	

Note: Attempt all questions

Q. No	Question	COs, RBT level	Marks
Q1	Distinguish between spatial and non-spatial data.	CO4, L3	2
Q2	What do you mean by Atmospheric Window region?	CO3, L1	2
Q3	What are the differences in Raster and Vector data models?	CO4, L2	4
Q4	How DGPS works?	CO5, L3	4
Q5	Write a note on remote sensing observation platform forms?	CO1, L2	4
Q6	(i) Explain in detail the different components of GPS segments? (ii) What are sensors? Explain different modes of scanning with neat sketch.	CO5, L2 CO3, L4	8

Course Outcomes (CO)

Students will be able to

- 1 Demonstrate the use of remote sensing in resolving the location related problems.
- 2 Explain and apply the concept of photogrammetry in the survey.
- 3 Retrieve the information from remotely sensed data and interpret the data for survey.
- 4 Analyze and representation of the geographical data.
- 5 Understand the basic concepts related to GIS and GPS.
- 6 Apply the electronic technology for surveying works.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	B.Tech.(CE)	Semester	8 th
Subject Code	DECE-14815	Subject Title	Ground Improvement Techniques
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Charnjeet Singh
Maximum Marks	24	Time Duration	1 hour 30 minutes
Date of MST	21 st February, 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Distinguish between a sand drain and prefabricated drain. Which one would be preferred as per economic part?	CO3, L2	2
Q2	What do you mean by dynamic compaction? How it is affected by moisture and density of the soil?	CO2, L5	2
Q3	Discuss the failure mechanism of the stone columns with aid of neat sketches as per IS code.	CO2, L3	4
Q4	Explain in detail about the field compaction procedures including quality controls and moisture content measurement.	CO1, L2	4
Q5	Soil improvement using thermal treatment in the form of heating and freezing can cause marked changes in the properties of the soil. Justify the statement.	CO2, L4	4
Q6	What is the vibro compaction and replacement processes? Explain the procedure and suitability for site with the aid of sketches.	CO3, L5	8

Course Outcomes (CO)

Students will be able to

1	Evaluate the existing characteristics of the soil to be improved.
2	Understand the mechanism of ground improvement.
3	Select a suitable type of ground improvement technique considering the existing soil.
4	Design various ground improvement techniques.
5	Monitor the efficiency of ground improvement methods.
6	Apply the selected ground improvement methods at site.

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(Civil)	Semester	8 th
Subject Code	CE-14804	Subject Title	Transportation Engg.-2
Mid Semester Test No.	1	Course Coordinator(s)	Dr. B.S. Walia, Prabhjot Singh Pannu
Max. Marks	24	Time Duration	1hr. and 30min.
Date of MST	25/02/2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Why periodic renewal of ballast is necessary? How it is done?	CO1,L1	2
Q2	A Meter Gauge track has a sleeper density of (M+5). If the track is laid with rails of 13m length, find out number of sleepers under one rail length.	CO3,L6	2
Q3	Draw a typical cross-section of a permanent way. Discuss in brief the basic function of various components of railway track.	CO2, L2	4
Q4	What is creep? What are the causes and effect of creep? Explain various preventive and remedial measures that can be taken.	CO3, L2	4
Q5	Discuss different types of rail joints with the help of neat sketches. What are the different welded rail sections commonly practiced in India?	CO1, L4	4
Q6	Determine the length of transition curve and draw the offset at every 15m. Given that the design speed on the curve is 96kmph on a B.G. track.	CO3, L5	8

Course Outcomes (CO)

Students will be able to

1	Understand the importance of railway infrastructure planning and design.					
2	Identify the functions of different component of railway track.					
3	Apply existing technology to design, construction and maintenance of railway track.					
4	Apprehend the advanced international technology being used in the field of railway engineering.					
5	Outline the importance of Airport Infrastructure planning and design.					
6	Evaluate the major issues and problems of current interest to airport engineering.					
RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(Civil)	Semester	8 th
Subject Code	CE-14804	Subject Title	Transportation Engg.-2
Mid Semester Test No.	2	Course Coordinator(s)	Dr. B.S. Walia, Prabhjot Singh Pannu
Max. Marks	24	Time Duration	1hr. and 30min.
Date of MST	23/04/2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What is throw of switch and name different types of switches?	CO3,L1	2
Q2	Explain in brief principle of MAGLEV tracks.	CO4,L2	2
Q3	Write a short note on (i) Zoning laws (ii) Clear zone (iii) Turning zone.	CO5, L3	4
Q4	Explain briefly the different types of station yards. With the aid of neat-sketches, explain the functioning and types of marshalling yards.	CO3, L2	4
Q5	Briefly discuss the major features and working procedure along with neat sketch of Automatic Block system.	CO4, L4	4
Q6	Determine the required elements for laying the 1 in 12 turnout when it springs from the heel of switch at an angle of $1^{\circ}8'00''$ from a B.G. track and ends at T.N.C. keeping the curve tangential to the tongue rail. Assume the heel divergence = 13.33cm. OR The runway length required for take-off at sea level in standard atmospheric conditions is 2500m. Aerodrome reference temp. is 25°C and that of the standard atmosphere at aerodrome elevation of 150m is 14.025°C . If effective runway gradient is 0.5%, determine the runway length to be provided.	CO3, L6 CO6, L5	8 8

Course Outcomes (CO)

Students will be able to

1	Understand the importance of railway infrastructure planning and design.					
2	Identify the functions of different component of railway track.					
3	Apply existing technology to design, construction and maintenance of railway track.					
4	Apprehend the advanced international technology being used in the field of railway engineering.					
5	Outline the importance of Airport Infrastructure planning and design.					
6	Evaluate the major issues and problems of current interest to airport engineering.					
RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8 th
Subject Code	DECE-14815	Subject Title	Ground Improvement Techniques
Mid Semester Test	2	Course Coordinator	Charnjeet Singh
Maximum Marks	24	Time Duration	1 hour 30 minutes
Date of MST	25/04/2019	Roll Number	

Note: Attempt all questions

Q. No	Question	COs, RBT level	Marks
Q1	What do you mean by term "Permeation Grouting, Compaction Grouting and Uncontrolled Displacement Grouting"? Illustrate the sketch of each.	CO3, L2	2
Q2	"The reinforcing strips/sheets are placed perpendicular to the wall face in case of reinforced earth wall." Justify the statement with neat sketch.	CO4, L5	2
Q3	Explain the effects of lime treated soils on bearing capacity and settlement characteristics of soil?	CO5, L3	4
Q4	What is solution grouting and it's types? Briefly explain with neat sketches, aspects of grouting and different chemicals along with the grouting operations.	CO6, L2	4
Q5	Explain the failure mechanism of stone columns with neat sketches	CO5, L4	4
Q6	<p>A reinforced soil retaining wall of 7 m height is to be constructed. The properties of reinforced fill are as angle of repose for reinforced soil = 36°, unit weight of reinforced soil = 22 kN/m^3 and backfill soil: angle repose for backfill soil = 28°, unit weight of backfill soil = 19 kN/m^3. The backfill surface is horizontal. The safe bearing capacity of the soil at bottom of RE wall is 235 kN/m^2. Perform the calculations for the external stability of the system against the following:</p> <ul style="list-style-type: none"> Determine the length of the reinforced soil block to achieve a factor of safety against sliding of 1.50 Determine the factor of safety against overturning for this length of reinforcement. Determine the bearing pressure on the foundation soil. 	CO4, L5	8

Course Outcomes (CO) Students will be able to

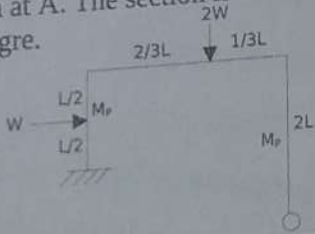
1	Evaluate the existing characteristics of the soil to be improved.
2	Understand the mechanism of ground improvement.
3	Select a suitable type of ground improvement technique considering the existing soil.
4	Design various ground improvement techniques.
5	Monitor the efficiency of ground improvement methods.
6	Apply the selected ground improvement methods at site.

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	M.Tech.(SE)	Semester	2
Subject Code	CS-14404	Subject Title	Plastic Analysis and Design of Steel Structures
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Sukhwinder Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	26 th April, 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Write a detailed note the minimum-weight design concept of steel structures.	CO1, L2	5
Q2	Compute the downward deflection at C under the vertical load by assuming the last hinge to form at A. The section is uniform throughout. The portal frame is shown in figre. 	CO4, L4	5
Q3	What are the different rules to tackle the shear force and local buckling of flanges and web? Explain it.	CO3, L1	10
Q4	Design a continuous beam consisting of three spans of 10 m, 12 m and 8 m. The first span consists of 14 kN/m of udl whereas the other spans consist of 21 kNm of loading. Design a suitable single I-section for the beam.	CO3, L6	10

Course Outcomes (CO)

Students will be able

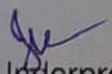
1	Students will learn to concepts of plastic design
2	Students will learn plastic analysis techniques
3	Students will be able to apply Secondary design considerations
4	Students will be able to analyze Problem of incremental: collapse

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understandin g	Applyin g	Analyzin g	Evaluatin g	Creating

Guru Nanak Dev Engineering College, Ludhiana
Civil Engineering Department

Report

1. The committee constituted to scrutinize the quality of question papers for MST organized a meeting. There were 20 B. Tech courses and 4 courses for each branch of M.Tech were offered according to the study scheme, whose question papers were analyzed for semester Jan-June 2019.
2. The committee had analyzed the papers and discussed the minor mistakes of each subject to ensure that the papers were satisfying the norms of Bloom Taxonomy and template and the format mistakes are eliminated.
3. In subject of Transportation Engineering-II, the terms like define and explain were not satisfying the RBT levels. The modification was made before the examination with the help of Subject Expert.


Prof. Inderpreet Kaur

Convener & Deptt. NBA I/C

CC:

1. HOD for information
2. File Record

HOD

With reference to letter no. NBA/104/21 dated 21-02-2018, A department level committee of following members is constituted to scrutinize the quality of MST question papers.

Chairman: Dr H S Rai (Prof. and Head) and **Deptt NBA I/C:** Dr. Inderpreet Kaur (Convener)

Following faculty members are also a part of committee as Course coordinator, Subject Expert and Module Coordinators for the subjects listed below for session July – December 2019:

B.Tech (Civil Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Solid Mechanics	3	Prof. Savleen Takkar	Dr. Inderpreet Kaur	Dr. Harvinder Singh
2.	Disaster Preparedness & Planning	3	Prof. Pushpinder Singh	Prof. Bhupinder Singh	Dr. Harvinder Singh
3.	Basic Electronics & applications in Civil Engineering	3	Prof. Tarandeep Singh	Prof. Gurjot Kaur Walia	Prof. Harminder Kaur
4.	Surveying & Geomatics	3	Prof. Ajitpal Singh	Prof. Prabhjot Singh	Prof. Gurbuneet Singh
5.	Civil Engineering-Introduction, Societal & Global Impact	3	Prof. Manmeet Kaur Panesar	Prof. Yuvraj Singh	Dr. Inderpreet Kaur
6.	Fluid Mechanics	3	Prof. Sandeep Kaur	Prof. Ajitpal Singh	Dr. Prashant Garg
7.	Geotechnical Engineering	5	Prof. Amritpal Kaur	Prof. Pardeep Singh Joia	Dr. K.S. Gill
8.	Design of Steel Structures-I	5	Prof. Navneet Singh	Prof. Sukhwinder Singh	Dr. Jagbir Singh
9.	Structural Analysis - II	5	Prof. Mandeep Kaur	Prof. Amandeep Singh	Dr. Harvinder Singh
10.	Transportation Engineering-I	5	Prof. Mandeep Kaur	Prof. Heena Malhotra	Dr. Prashant Garg
11.	Environmental Engineering-I	5	Prof. Balihar Singh	Prof. Sukhwinder pal Singh	Dr. Puneet Pal Singh Cheema
12.	Design of Steel Structures-II	7	Dr. Jagbir Singh	Dr. Harpal Singh	Dr. Harpal Singh
13.	Elements of Earthquake Engineering	7	Prof. Tanpreet Singh	Prof. Sukhwinder Singh	Dr. Jagbir Singh
14.	Irrigation Engineering-II	7	Prof. Pritpal Kaur	Prof. Pritpal Kaur	Prof. Gurbuneet Singh
15.	Transportation Engineering-II	7	Prof. Pushpinder Singh	Prof. Prabhjot Singh	Dr. Prashant Garg
16.	Pavement Design	7	Dr. Prashant Garg	Dr. Prashant Garg	Dr. Gurdeepak Singh
17.	Traffic Engineering	7	Prof. Charnjeet Singh	Dr. Prashant Garg	Dr. Prashant Garg
18.	Matrix methods of Structural Analysis	7	Dr. Harvinder Singh	Dr. Harvinder Singh	Dr. H.S. Rai
19.	Ground Improvement Techniques	7	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh	Dr. K.S. Gill
20.	Hydrology and Dams	7	Prof. Gurbuneet Singh	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
21.	Disaster Management	7	Prof. Manvinder Kingra	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh

M.Tech (Geotechnical Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Subsurface Investigations &	1	Prof. Charnjeet	Dr. Gurdeepak	Dr. K.S. Gill

	Instrumentation		Singh	Singh	
2.	Advanced Soil Mechanics	1	Prof. Amandeep Singh	Prof. Heena Malhotra	Dr. K.S. Gill
3.	Environmental Geotechnology	1	Prof. Heena Malhotra	Dr. Gurdeepak Singh	Dr. Prashant Garg
4.	Earth retaining structures	1	Prof. Amritpal Kaur	Prof. Prashant Garg	Dr. Gurdeepak Singh
5.	Research Methodology and IPR	1	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh	Dr. K.S. Gill
6.	Disaster Management	1	Prof. Manvinder Kingra	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh
7.	Pavement Analysis and Design	1	Dr. Prashant Garg	Prof. Pushpinder Singh	Dr. Gurdeepak Singh
8.	Ground Improvement Techniques	1	Prof. Gagandeep Kaur Grewal	Prof. Heena Malhotra	Dr. Prashant Garg
9.	Ground Improvement	3	Prof. Pardeep Singh	Prof. Heena Malhotra	Dr. Prashant Garg

M.Tech (Structural Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Advanced Structural Analysis	1	Dr. Jagbir Singh	Dr. Harpal Singh	Dr. Harvinder Singh
2.	Disaster Management	1	Prof. Sahibdeep Singh Setia	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh
3.	Bridge Engineering	1	Dr. Inderpreet Kaur	Dr. Jagbir Singh	Dr. Harpal Singh
4.	Structural Optimization	1	Prof. Sukhwinder Singh	Dr. Harvinder Singh	Dr. H.S. Rai
5.	Industrial Structures	1	Prof. Sahibdeep Singh Setia	Dr. Harvinder Singh	Dr. Jagbir Singh
6.	Finite Element Method in Structural Engineering	1	Dr. Harpal Singh	Dr. Harpal Singh	Dr. H.S. Rai
7.	Research Methodology and IPR	1	Prof. Navneet Singh	Dr. Inderpreet Kaur	Dr. Harvinder Singh
8.	High Rise Building	3	Prof. Tanpreet Singh	Dr. Harvinder Singh	Dr. H. S. Rai

M.Tech (Environmental Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Physico-Chemical Treatment Methods	1	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema
2.	Environmental Change and Sustainable Development	1	Prof. Avneet Kaur	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema
3.	Environmental Chemistry and Microbiology	1	Prof. Balihar Singh	Dr. A. K. Sodhi	Dr. Puneet Pal Singh Cheema
4.	Research Methodology and IPR	1	Dr. Gurdeepak Singh	Dr. Inderpreet Kaur	Dr. Puneet Pal Singh Cheema
5.	Disaster Management	1	Prof. Manvinder Kingra	Dr. Inderpreet Kaur	Dr. Gurdeepak Singh
6.	Solid and Hazardous Waste Management	1	Prof. Sukhwinder pal Singh	Prof. Avneet Kaur	Dr. Puneet Pal Singh Cheema
7.	Environment System Engineering	3	Dr. Puneet Pal Singh Cheema	Prof. Sukhwinder pal Singh	Dr. Puneet Pal Singh Cheema

Dr. Inderpreet Kaur
Deptt. NBA I/C (Convener)

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	5
Subject Code	BTCE - 14505	Subject Title	Environment engg. I
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Er. Gagandeep Kaur Grewal, Er. Sukhwinderpal Singh and Er. Balihar Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	20-09-2019	Roll Number	

Note: Attempt all questions

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks																																																																	
Q1	a) Standard EDTA solution is used to determine the.....in water. b) Give the maximum acceptable limit of the following for the public drinking water : i) Nitrites ii) lead	CO3, L1	2																																																																	
Q2	In a city having population 40 lakhs, seven fire breakout in a day and each fire stands for 4 hours, calculate the total amount of water required as a fire demand.	CO1, L5	2																																																																	
Q3	What is an intake structure? What are its types? What are the factors which govern the location of an intake structure?	CO1, L1	4																																																																	
Q4	What is an indicator organism? Discuss the characteristics of an ideal indicator.	CO3, L2	4																																																																	
Q5	Calculate the total population and the total water requirement in the city X in the year 2016 whose per capita requirement of people is 150 lpcd and population data is as given below. Use incremental increase method.	CO2, L5	4																																																																	
	<table> <tr> <td>Year</td> <td>1931</td> <td>1941</td> <td>1951</td> <td>1961</td> <td>1971</td> <td>1981</td> </tr> <tr> <td>Population</td> <td>858545</td> <td>1015672</td> <td>1201553</td> <td>1691538</td> <td>2077820</td> <td>2585862</td> </tr> </table>	Year	1931	1941	1951	1961	1971	1981	Population	858545	1015672	1201553	1691538	2077820	2585862																																																					
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Q6	The table below gives the values of monthly inflows, precipitation, pan evaporation and demand in a city (in hectare-metres and mm). Using the net pool area as 400 hectares, find the useful storage capacity of the reservoir provided that the pan evaporation coefficient is 0.8 and 40 % of the rainfall has already reached the stream in the past. Further assume that as per the prior water rights, there is requirement of release of 5 hectare-metre per month of water.	CO3, L5	8																																																																	
	<table> <tr> <th>Month</th> <th>Inflow (ha-m)</th> <th>Precipitation (mm)</th> <th>Pan Evaporation (mm)</th> <th>Demand</th> </tr> <tr><td>Jan</td><td>0</td><td>9</td><td>10</td><td>8</td></tr> <tr><td>Feb</td><td>1.4</td><td>12</td><td>15</td><td>13.5</td></tr> <tr><td>Mar</td><td>3.1</td><td>17</td><td>17</td><td>10</td></tr> <tr><td>Apr</td><td>4.6</td><td>24</td><td>35</td><td>17.5</td></tr> <tr><td>May</td><td>18.7</td><td>30</td><td>45</td><td>22.5</td></tr> <tr><td>June</td><td>52.6</td><td>41</td><td>72</td><td>50</td></tr> <tr><td>July</td><td>68.9</td><td>65</td><td>115</td><td>32</td></tr> <tr><td>Aug</td><td>45.1</td><td>82</td><td>41</td><td>17.5</td></tr> <tr><td>Sep</td><td>17.3</td><td>43</td><td>35</td><td>10</td></tr> <tr><td>Oct</td><td>5.6</td><td>15</td><td>22</td><td>5.5</td></tr> <tr><td>Nov</td><td>3.1</td><td>0</td><td>19</td><td>10</td></tr> <tr><td>Dec</td><td>0</td><td>0</td><td>15</td><td>13.5</td></tr> </table>	Month	Inflow (ha-m)	Precipitation (mm)	Pan Evaporation (mm)	Demand	Jan	0	9	10	8	Feb	1.4	12	15	13.5	Mar	3.1	17	17	10	Apr	4.6	24	35	17.5	May	18.7	30	45	22.5	June	52.6	41	72	50	July	68.9	65	115	32	Aug	45.1	82	41	17.5	Sep	17.3	43	35	10	Oct	5.6	15	22	5.5	Nov	3.1	0	19	10	Dec	0	0	15	13.5		
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Course Outcomes (CO)

Students will be able to

Course Outcomes (CO)

Students will be able to:

1	Identify different types of water demands and select suitable source of water.
2	Predict future population and estimate future water demands
3	Demonstrate a firm understanding of various water quality parameters.
4	Design different water treatment units to meet the drinking water quality standards and criteria
5	Plan and design the water transportation, pumping stations and pipe network
6	Design low cost water treatment techniques in the rural areas.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CIVIL)	Semester	5
Subject Code	BTCE-501	Subject Title	Design of Steel Str-1
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Gurbir Jawanda,, Sukhwinder Singh, Navneet Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST		Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What are the advantages of steel as a structural material?	CO1, L1	2
Q2	Define ultimate strength, toughness and ductility.	CO1, L4	2
Q3	Design a double cover butt joint to connect two plates each 12 mm thick and 300mm wide .The service load to be transferred is 200kN.	CO2, L5	4
Q4	Design a fillet weld to join a tension member consisting of 2 ISA 100mm x 75mm x 8mm to a 12 mm thick gusset plate. The factored tensile load is 410kN.	CO2, L6	4
Q5	Calculate the strength of 20mm diameter bolt grade 4.6 for the cases when the main plates to be jointed are 12mm a) Lap joint b) Double cover butt joint each of cover plates being 8mm thick.	CO2, L6	4
Q6	Design a bolted bracket connection to support an end reaction of 400kN because of the factored loads supported by the beam. The eccentricity of the end reaction is 250mm. The steel used is of grade Fe 410. Use bolts grade 4.6. Thickness of bracket plate may be taken as 10mm. The column connection is ISHB50@ 300.19N/m.	CO4, L6	8

Course Outcomes (CO)

Students will be able to

1	Understand and appreciate various aspects of steel construction like different types of steel sec-
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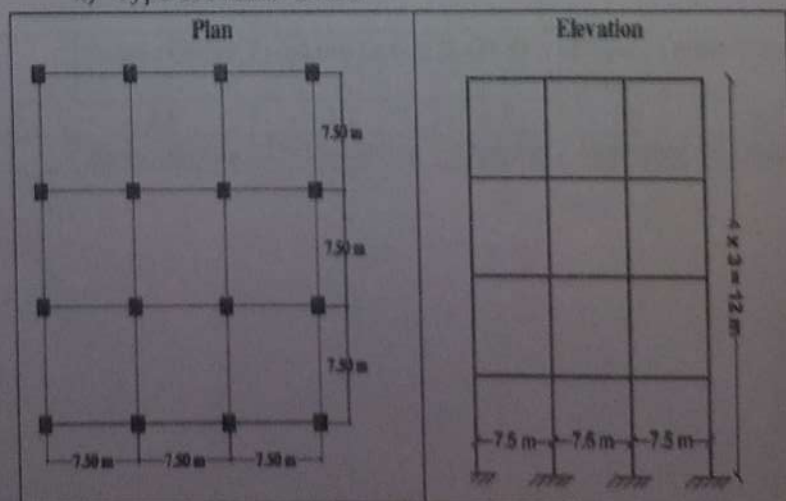
Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	7
Subject Code	CE-14802	Subject Title	Elements of Earthquake Engineering
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Sukhwinder Singh, Tanpreet Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	13/11/2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define Floor Diaphragm Action?	CO2, L2	2
Q2	What is Strong Column-Weak Beam Analogy?	CO2, L2	2
Q3	Detail and sketch the longitudinal reinforcement and transverse reinforcement of beam section confirming IS13920- 2016.	CO3, L5	4
Q4	Describe the various seismic strengthening arrangements recommended for masonry building as per IS 4326	CO3, L1	4
Q5	Derive the equation of motion for damped-forced vibrations with SDOF system.	CO3, L4	4
Q6	<p>A four storey reinforced concrete frame building as shown in figure is situated in Zone III. Determine the total base shear as per IS 1893: 2016. Distribute the base shear along the height of the building. Thickness of slab 150 mm</p> <p>a) Live load = 3 kN/m² b) Thickness of outer walls with plaster = 120 mm c) Density of brick masonry = 20 kN/m³ d) Density of concrete = 25 kN/m³ e) Size of column = 450 x 450 mm f) Size of Beams = 250 x 250 mm g) Type of foundation = Isolated footing h) Soil Strata under 1.5 m = Medium i) Seismic Zone = III j) Use Sa/g= 2.5 k) Type of Frame: OMRF</p>	CO5, L4	8



Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	M. Tech (CE)	Semester	1
Subject Code	MEV - 111	Subject Title	Environmental Chemistry and Microbiology
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Er. Baliyar Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	15-11-2019		

Note: Attempt all questions

Q. No.	Question	CO's, RBT LEVEL	Marks
Q1	Explain BOD and COD in the treatment of waste water. Discuss the similarities and dissimilarities in both the terms by giving their permissible limits for waste water discharge into environment	CO6, L1	5
Q2	What is culture, mixed culture and media for the microorganism. Enlist the various cultural characteristics.	CO4, L2	5
Q3	What are aquatic microorganisms and categories them according to different zones. Also discuss the role of aquatic microbial ecosystem with the help of biological transformations.	CO5, L3	10
Q4	Discuss in detail various waste water treatment processes. Also explain the role of microorganism in the potable water quality and waste water treatment by giving an example.	CO6, L4	10

Course Outcomes (CO's): Students will have the ability to:

1	Understand the interactions between air, water, soil sediments, equilibrium, acid base reactions and different water quality parameters.
2	Solve redox reactions and to understand various heavy metals in waste water.
3	Identify various sources and effects of indoor and outdoor air pollution.
4	Identify various microorganism and their importance.
5	Analyze the growth kinetics of microorganisms and microbiology of aquatic ecosystem.
6	Know the role of microorganisms in waste water treatment processes.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M.Tech.(CE)	Semester	1
Subject Code	MRM-101	Subject Title	Research Methodology and IPR
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Gurdeepak Singh Kler, Navneet Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	16.9.2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	Marks
Q1	What do you mean by research? Explain its significance in modern times?	5
Q2	Explain how to develop a research proposal?	5
Q3	Write short note on : (a) Scope and objectives of Research (b) Approaches of investigation of solutions for research problem	10
Q4	Write short note on: (a) How to write a technical report (b) Method for collecting the data	10

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M.Tech.(CE)	Semester	1
Subject Code	MRM-101	Subject Title	Research Methodology and IPR
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Gurdeepak Singh Kler, Navneet Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	16.9.2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	Marks
Q1	What do you mean by research? Explain its significance in modern times?	5
Q2	Explain how to develop a research proposal?	5
Q3	Write short note on : (c) Scope and objectives of Research (d) Approaches of investigation of solutions for research problem	10
Q4	Write short note on: (c) How to write a technical report (d) Method for collecting the data	10

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M. Tech (CE)	Semester	1
Subject Code	MEV - 111	Subject Title	Environmental Chemistry and Microbiology
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Prof. Balihar Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	18 September, 2019		
Note: Attempt all questions			Marks
Q. No.	Question		Marks
Q1	Discuss different heavy metals and their harmful effect.		5
Q2	Give a brief introduction to different microorganisms present in water.		5
Q3	Explain physical and chemical water quality parameters in detail.		10
Q4	(a) Explain indoor pollution and also discuss various conditions by which the concentration of radon is influenced. (b) What is photochemical smog and what are the conditions behind its formation.		10

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	M. Tech (CE)	Semester	1
Subject Code	MEV - 111	Subject Title	Environmental Chemistry and Microbiology
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Prof. Balihar Singh
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST	18 September, 2019		
Note: Attempt all questions			
Q. No.	Question		Marks
Q1	Discuss different heavy metals and their harmful effect.		5
Q2	Give a brief introduction to different microorganisms present in water.		5
Q3	Explain physical and chemical water quality parameters in detail.		10
Q4	(c) Explain indoor pollution and also discuss various conditions by which the concentration of radon is influenced. (d) What is photochemical smog and what are the conditions behind its formation.		10

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	7
Subject Code	CE-14804	Subject Title	Transportation Engineering - II
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Prabhjot Singh and Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Sep 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What do you understand by negative super elevation?	3, L2	2
Q2	Determine the number of sleepers required for the construction of 2000 m of BG track, with a sleeper density of $N + 7$.	2, L5	2
Q3	What is Ballast? What are the different types and enumerate the requirements of Good ballast?	2, L2	4
Q4	What is creep of rails? List the various theories related to creep.	2, L2	4
Q5	What is coning of wheel and tilting of rails? Explain the behaviour of a coned wheel on curved track.	2, L4	4
Q6	Calculate the super elevation, maximum permissible speed and transition length for a 3.2° curve on a high-speed BG section with a maximum sanctioned speed of 101 kmph. Assume the equilibrium speed to be 80 kmph and the booked speed of the goods train to be 60 kmph.	3, L5	8

Course Outcomes (CO)

Students will be able to

1	Understand the importance of railway infrastructure planning and design.
2	Identify the functions of different component of railway track.
3	Apply existing technology to design, construction and maintenance of railway track.
4	Apprehend the advanced international technology being used in the field of railway engineering.
5	Outline the importance of Airport Infrastructure planning and design.
6	Evaluate the major issues and problems of current interest to airport engineering.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	7
Subject Code	CE-14804	Subject Title	Transportation Engineering - II
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Prabhjot Singh and Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Nov 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs; RBT level	Marks
1	Write short notes on TACV track.	4; L2	2
2	How markings are provided in airports for landing direction indication?	5; L4	2
3	Explain the following railway station equipments: (a) Turntable (b) Triangle	2; L2	4
4	A turn out is to be laid off a straight BG track with a 1 in 11 crossing (as per IRS method). Determine the lead and radius for the turn out, given the following data. Heel divergence $d = 113$ mm; the straight length between the TNC and the tangent point of the crossing curve, $h = 1.325$ m; crossing angle $= 3^{\circ}25'40''$ and switch angle $= 1^{\circ}8'20''$.	3; L5	4
5	Discuss the classification of signals according to their locations in the station along with some suitable sketch.	3; L2	4
6	The runway length required for landing at sea level in standard atmospheric conditions is 3200 m. Runway length required for takeoff at sea level in standard atmospheric conditions is 2600 m. The airport site has an elevation of 220 m. Airport reference temperature is 23°C . If the effective runway gradient is 0.5 percent, determine the runway length to be provided.	5; L5	8

Course Outcomes (CO)

Students will be able to

1	Understand the importance of railway infrastructure planning and design.
2	Identify the functions of different component of railway track.
3	Apply existing technology to design, construction and maintenance of railway track.
4	Apprehend the advanced international technology being used in the field of railway engineering.
5	Outline the importance of Airport Infrastructure planning and design.
6	Evaluate the major issues and problems of current interest to airport engineering.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	3
Subject Code	PCCE-104	Subject Title	Disaster Preparedness and Planning
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Prof. Bhupinder Singh Walia and Prof. Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Nov 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs; RBT level	Marks
1	Discuss in brief the Disaster Management act.	4; L2	2
2	How Remote sensing and GIS can be helpful in mitigating the impacts of floods?	5; L4	2
3	Explain the types of Disaster Rehabilitation.	3; L2	4
4	Discuss the process of waste management during the disaster response.	3; L3	4
5	What is Information Dissemination. Discuss its role in the effective management of disasters?	6; L4	4
6	Explain in detail the roles and responsibilities of NDMA in Disaster management.	4; L4	8

Course Outcomes (CO)

Students will be able to

1	Identify various types of disasters, their causes, effects & mitigation measures.
2	Demonstrate the understanding of various phases of disaster management cycle and create vulnerability and risk maps.
3	Understand the use of emergency management system to tackle the problems.
4	Discuss the role of media, various agencies and organizations for effective disaster management.
5	Design early warning system and understand the utilization of advanced technologies in disaster management.
6	Compare different models for disaster management and plan & design of infrastructure for effective disaster management.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	B.Tech.(CE)	Semester	3
Subject Code	PCCE-104	Subject Title	Disaster Preparedness and Planning
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Prof. Bhupinder Singh Walia and Prof. Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Sep 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define (a) human vulnerability (b) physical vulnerability.	2, L2	2
Q2	Briefly explain the problems associated with recovery process following a disaster.	2, L4	2
Q3	Discuss the causes of occurrence of a Tsunami.	1, L2	4
Q4	How can we classify the disasters? Give at least two types of classifications.	1, L1	4
Q5	Discuss the factors upon which Disaster preparedness plan depends.	2, L4	4
Q6	What are the main elements of Disaster Management cycle? Explain in detail.	2, L4	8

Course Outcomes (CO)

Students will be able to


1	Identify various types of disasters, their causes, effects & mitigation measures.
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3	Understand the use of emergency management system to tackle the problems.
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RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana
Civil Engineering Department

Report

1. The meeting was held to scrutinize the quality of question papers for MST. There were 21 B. Tech courses and total of 21 M. Tech courses were offered according to the study scheme, whose question papers were analyzed for semester July-Dec 2019.
2. The committee analyzed the difficulty and quality level of question papers. Also, the Course Outcome matching with questions was evaluated that it was suitably placed or not.
3. In subject of M. Tech (Structures), the question asked were too lengthy according to the time provided as discussed with the Subject Expert and Module Coordinator then a mix blend of short and long question was made satisfying the time constraint.


Deptt. NBA I/O

CC:

1. HOD for information
2. File Record

HOD

With reference to letter no. NBA/104/21 dated 21-02-2018, a department level committee of following members is constituted to scrutinize the quality of MST question papers.

Chairman: Dr H S Rai (Prof. and Head)

Deptt NBA I/C: Dr. Inderpreet Kaur (Convener)

Following faculty members are also a part of committee as Course coordinator, Subject Expert and Module Coordinators for the subjects listed below for session January – June 2020:

B.Tech (Civil Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Mathematics-III	4	Prof. Rajbir Kaur	Prof. Rajbir Kaur	Dr. D.S. Pathania
2.	Concrete Technology	4	Prof. Ajitpal Singh	Prof. Yuvraj Singh	Dr. Harvinder Singh
3.	Material, Testing & Evaluation	4	Prof. Sukhwinder Singh	Dr. Harvinder Singh	Dr. Harvinder Singh
4.	Hydrology & Water Resources Engineering	4	Prof. Pritpal Kaur	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
5.	Transportation Engineering	4	Prof. Pushpinder Singh	Prof. Prabhjot Singh	Dr. Prashant Garg
6.	Environment Science	4	Prof. Gagandeep Kaur Grewal	Prof. Sukhwinder pal Singh	Dr. Puneet Pal Singh Cheema
7.	Foundation Engineering	6	Prof. Heena Malhotra	Prof. Pardeep Singh Joia	Dr. Prashant Garg
8.	Design of Concrete Structures-II	6	Prof. Amandeep Singh	Dr. Inderpreet Kaur	Dr. Harvinder Singh
9.	Infrastructure Development and Management	6	Prof. Manmeet Kaur Panesar	Prof. Yuvraj Singh	Dr. Inderpreet Kaur
10.	Numerical Methods in Civil Engineering	6	Dr. Inderpreet Kaur	Dr. Inderpreet Kaur	Dr. Harpal Singh
11.	Reinforced Earth and Geotextiles	6	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh
12.	Professional Practice	6	Prof. Tanpreet Singh	Prof. Bhupinder Singh	Prof. Gurbuneet Singh
13.	Environmental Engineering – II	6	Prof. Balihar Singh	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema
14.	Design of Steel Structures-II	8	Dr. Jagbir Singh	Dr. Harpal Singh	Dr. Harpal Singh
15.	Transportation Engineering-II	8	Prof. Sahibdeep Singh Setia	Prof. Prabhjot Singh	Dr. Prashant Garg
16.	Disaster Management	8	Prof. Manmeet Kaur Panesar	Prof. Manvinder Kingra	Dr. Inderpreet Kaur
17.	Hydrology and Dams	8	Prof. Gurbuneet Singh	Prof. Gurbuneet Singh	Dr. Gurdeepak Singh
18.	Traffic Engineering	8	Prof. Pushpinder Singh	Prof. Charnjeet Singh	Dr. Prashant Garg
19.	Pavement Design	8	Dr. Prashant Garg	Prof. Pushpinder Singh	Dr. Gurdeepak Singh
20.	Elements of Earthquake Engineering	8	Prof. Tanpreet Singh	Prof. Sukhwinder Singh	Dr. Harvinder Singh
21.	Irrigation Engineering-II	8	Prof. Sandeep Kaur	Prof. Pritpal Kaur	Dr. Prashant Garg

M.Tech (Geotechnical Engineering)

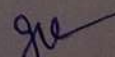
S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Advanced Foundation Engineering	2	Dr. Prashant Garg	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh
2.	Soil Dynamics	2	Prof. Heena Malhotra	Prof. Heena Malhotra	Dr. Prashant Garg
3.	Clay Mineralogy	2	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh	Dr. Gurdeepak Singh
4.	Rock mechanics	2	Prof. Pardeep Singh Joia	Dr. Prashant Garg	Dr. Gurdeepak Singh
5.	Geotechnical Earthquake Engineering	2	Prof. Amandeep Singh	Dr. Gurdeepak Singh	Dr. Prashant Garg
6.	Geosynthetics Engineering	2	Prof. Charnjeet Singh	Prof. Heena Malhotra	Dr. Gurdeepak Singh

M.Tech (Structural Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Theory and applications of cement composites	2	Prof. Navneet Singh	Dr. Harvinder Singh	Dr. Harpal Singh
2.	Design of Masonry Structures	2	Dr. Harvinder Singh	Dr. Inderpreet Kaur	Dr. Harpal Singh
3.	Structural Dynamics	2	Dr. Harpal Singh	Dr. Harpal Singh	Dr. Harvinder Singh
4.	Advanced Solid Mechanics	2	Prof. Sukhwinder Singh	Dr. Jagbir Singh	Dr. Harpal Singh
5.	Design of High-Rise Structures	2	Prof. Sahibdeep Singh Setia	Dr. Harvinder Singh	Dr. Jagbir Singh
6.	Pre-stressed Concrete Structures	2	Prof. Sukhwinder Singh	Dr. Inderpreet Kaur	Dr. Jagbir Singh

M.Tech (Environmental Science and Engineering)

S. No.	Subject	Semester	Course Coordinator	Subject Expert	Module Coordinator
1.	Biodegradation and Bioremediation techniques	2	Prof. Sukhwinder pal Singh	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema
2.	Urban Storm water Management	2	Dr. Puneet Pal Singh Cheema	Prof. Sukhwinder pal Singh	Dr. Puneet Pal Singh Cheema
3.	Air Pollution and Control	2	Prof. Balihar Singh	Dr. Puneet Pal Singh Cheema	Dr. Puneet Pal Singh Cheema
4.	Biological Treatment Methods	2	Prof. Avneet Kaur	Dr. A. K. Sodhi	Dr. Puneet Pal Singh Cheema


Dr. Inderpreet Kaur
 Deptt. NBA I/C (Convener)

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	6
Subject Code	DECE-14608	Subject Title	Infrastructure Development & Management
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Yuvraj Singh and Manmeet Kaur
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	___ Feb, 2020	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Enumerate key issues in infrastructure development in the Indian context.	CO1, L2	2
Q2	As per World Bank " <i>Manage infrastructure like a business, not a bureaucracy</i> ". Comment and give your opinion.	CO4, L4	2
Q3	a) "If agriculture and industry are regarded as the body and bones of the economy, transport and communication constitutes its nerves". Justify. b) Discuss in brief, the current scenario and policy initiatives in roads and highway sector.	CO1, L2	4
Q4	How are adequate infrastructure facilities imperative for the socio-economic development of a country? Discuss.	CO1, L2	4
Q5	Illustrate with the help of a flowchart, the flow of resources in transportation infrastructure finance.	CO2, L6	4
Q6	a) Why is PPP (or 3P) vital for infrastructure development? Also discuss in brief various issues associated with it. b) Discuss major PPP modes prevalent in India for both development, and operation and maintenance (O&M) of road assets.	CO2, L4	(4 + 4)

Course Outcomes (CO)

Students will be able to

1	Understand the impact of infrastructure development on the economic development of a country.
2	Strategize the policy process for infrastructure development and to choose the best financing option for a project.
3	Demonstrate the construction components of various infrastructure sectors like highway, ports & aviation, oil & gas, power, telecom, railway and irrigation.
4	Remember the necessary conceptual insights, perspectives and the tools required for effective infrastructure management.
5	Develop a skill to retrieve lessons from case studies in International/National project management
6	Gather background information and research regarding various infrastructure sectors and to document the different phases in the life cycle of an infrastructure project.

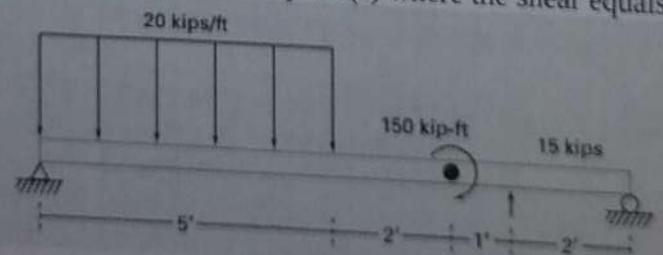
RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	6 th
Subject Code	DECE 14605	Subject Title	Numerical Methods in Civil Engineering
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Inderpreet Kaur
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	20/02/2020	Roll Number	

Note: Attempt all questions, Make suitable assumptions wherever necessary.

Q. No.	Question	COs, RBT level	Marks
Q1	Evaluate $\sqrt{12}$ to four decimal places by Newton-Raphson method.	CO2, L5	2
Q2	What are different types of errors common in numerical methods?	CO1, L1	2
Q3	The normal depth for flow (d) in a rectangular open channel is related to the volumetric flow rate of the fluid (Q) by the following equation: $d \left[\frac{Wd}{W+2d} \right]^{\frac{2}{3}} = \frac{fQ}{W\sqrt{s}}$ where s is the slope of channel, W is the width of the channel, and f is friction coefficient. For W=10 m, Q= 10 m ³ s ⁻¹ , f=0.01 and s= 1 x 10 ⁻³ , find the depth of flow by iterative method.	CO2, L3 and L5	4
Q4	A simply supported beam is loaded as shown in Fig.1. Using singularity functions, the shear along the beam can be expressed by the equation: $V(x) = 20[(x-0)^1 - (x-5)^1] - 15(x-8)^0 - 57$ By definition, the singularity function can be expressed as follows: $[x-a]^n = \begin{cases} (x-a)^n & \text{when } x > a \\ 0 & \text{when } x \leq a \end{cases}$ Use a numerical method to find the point(s) where the shear equals zero.	CO2, L3 and L4	4
 <p align="center">Fig. 1</p>			
Q5	Find the inverse of the matrix $\begin{bmatrix} 2 & 1 & 2 \\ 2 & 2 & 1 \\ 1 & 2 & 2 \end{bmatrix}$ by Gauss-Jordan method.	CO3, L5	4
Q6	Determine the root of the following pair of simultaneous non linear equations. $xy + y^2 = 15$ $x^3 + y + 3 = 0$ Close approximations to the start with are given as (1,4).	CO3, L5	8

Course Outcomes (CO)

Students will be able to

- 1 Demonstrate the concept of approximations and errors in the implementation and development of numerical methods.
- 2 Select an appropriate solution to an engineering problems dealing with the roots of equations through numerical methods.
- 3 Execute the solution using of problems involving linear and non linear algebraic equations and appreciate the application of these problems in fields of engineering.
- 4 Apply the techniques to fit curves to data and be capable of choosing the preferred method.

Guru Nanak Dev Engineering College, Ludhiana			
Department of Civil Engineering			
Program	B.Tech.(CE)	Semester	4 th
Subject Code	PCCE-108	Subject Title	Transportation Engineering
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Prabhjot Singh, Savleen Takkar and Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	18-02-20	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Enlist the classification of urban and metallic roads.	1, L1	2
Q2	What are the merits and demerits of Rail and Road transportation?	1, L2	2
Q3	Explain the factors considered in determining the priority of elevated and underground corridors.	2, L4	4
Q4	What is WBM. Discuss the construction steps of WBM.	3, L2	4
Q5	Discuss the problems related to the design and construction of Mass Rapid Transit system.	2, L4	4
Q6	The area of a certain district in India is 15,600 sq. Km and there are 12 towns as per 1981 census. Determine the lengths of different categories of roads to be provided in this district by the year 2001 according to Lucknow plan?	2, L5	8

Course Outcomes (CO)

Students will be able to

1	Appreciate the importance of different modes of transportation and characterize the road transportation.
2	Alignment and geometry of pavement as per Indian Standards according to topography.
3	Assess the properties of highway materials in laboratory.
4	Understand the importance of railway infrastructure planning and design.
5	Identify the functions of different component of railway track.
6	Outline the importance of Airport Infrastructure.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Civil Engineering

Program	B.Tech.(CE)	Semester	8 th
Subject Code	DECE-14810	Subject Title	Traffic Engineering
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Charnjeet Singh Pushpinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	18-02-2020	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define PCU. Why is it used? What are the limitations of PCU?	1, L2	2
Q2	A vehicle moving of 55 kmph speed was stopped by applying the brake and the length of skid mark was 14.4 m. If the average skid resistance of the pavement is known to be 0.65, determine the brake efficiency of the test vehicle.	2, L5	2
Q3	Discuss in detail PIEV theory.	1, L2	4
Q4	Discuss the following terms: (a) Parking turnover (b) Space mean speed (c) 85 th percentile speed (d) Level of service	2, L2	4
Q5	A car traveling at a speed of 70 kmph on a level asphaltic concrete road (coefficient of rolling resistance = 0.012) is suddenly allowed to halt by switching off the engine and putting the gear at neutral. Calculate the deceleration caused. Assume mass = 1360 kg, frontal area = 2.15 m ² , coefficient of air resistance = 0.38 kg/m ³ . OR A vehicle of 2500 kg skids a distance of 30 m before colliding with a stationary vehicle of 1800 kg weight. After collision both vehicle skid a distance of 15 m. Assuming coefficient of friction 0.5, determine the initial speed of the vehicle.	2, L5	4
Q6	(a) Explain in detail the Speed-Flow-Density Relationship as per Greenshield's Macroscopic model. (6) (b) The speed-density relationship on a single lane road with unidirectional flow is $v = 75 - 0.75k$ where v is in kmph and k in veh/km. Calculate the capacity of road in veh/hr. (2) OR Derive the expressions for basic traffic flow diagrams and explain the conditions on road with it.	2, L5	8

Course Outcomes (CO)

Students will be able to

- 1 Understand the characteristics related to road user, vehicle, and traffic stream
- 2 Conduct the various traffic studies to collect the data related to traffic.
- 3 Create the solution of the problem related to traffic regulation and control.
- 4 Design the traffic signal timing for pre-timed and traffic actuated signals.
- 5 Outline the procedure to assess the road safety audit.
- 6 Assess the need of modernization in traffic engineering


RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Civil Engineering Department

Report

1. The meeting was held to scrutinize the quality of question papers for MST. There were 36 total B. Tech courses were offered according to the study scheme, whose question papers were analyzed for semester Jan-June 2020.
2. The convener had analyzed the question papers with the help of Module Coordinator and Subject Expert. Also, evaluated the difficulty level of the question paper whether it was too easy or too difficult. All the papers were a mixed blend of LOTS and HOTS.
3. All the papers provided were up to the mark and formatting were also correct. No modification was required in any of the subjects.


Deptt. NBA I/O

CC:

HOD for information

Department of Computer Science and Engineering

01/11/19

Guru Nanak Dev Engineering College, Ludhiana
Department of CSE

Ref No.: CSE/2625

Date: 2-11-19

The Duty Chart for the 2nd Sessional test is enclosed herewith. Following instructions should be followed by all faculty members regarding the sessionals:

- The subject teachers should prepare the common sessional paper of the subject for all the sections of a class in the prescribed format.
- The question papers should be submitted to Er. Mandeep Kaur or Er. Kamaldeep Kaur by 08.11.2019.
- Faculty members on invigilation duty should follow the sitting plan of the students strictly.
- The person on external duty should collect the question papers, Sitting Plans and Attendance Sheets from Er. Mandeep Kaur or Er. Kamaldeep Kaur.
- It is the responsibility of the external to collect the answer sheets and hand it over to the concerned subject teacher(s) and submit the signed memos to the sessional coordinators on same day of the examination.
- The attendance sheets should be signed by the Internal and External examiner on duty.
- It is the duty of the teacher to provide replacement in case they are unable to give duty due to some reasons.

Paper Format:

B.Tech.

Paper duration: 1.5 hrs

Max. Marks: 24

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS

M.Tech.

Paper duration: 1.5 hrs

Max. Marks: 30

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	5	LOTS
Q2	5	HOTS
Q3	10	LOTS
Q4	10	HOTS




HOD (CSE)

Distribution:-

1. Circulate to all staff members (CSE).
2. Office Copy

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Guru Nanak Dev Engineering College, Ludhiana
Department of CSE

Ref No.: CSE/1533

Date: 12-2-19

The Duty Chart for the 1st Sessional test is enclosed herewith. Following instructions should be followed by all faculty members regarding the sessionals:

- The subject teachers should prepare the common sessional paper of the subject for all the sections of a class in the prescribed format.
- The question papers should be submitted to Er. Mandeep Kaur or Er. Kamaldeep Kaur by 15.02.2019.
- Faculty members on invigilation duty should follow the sitting plan of the students strictly.
- The person on external duty should collect the question papers, Sitting Plans and Attendance Sheets from Er. Mandeep Kaur or Er. Kamaldeep Kaur.
- It is the responsibility of the external to collect the answer sheets and hand it over to the concerned subject teacher(s) and submit the signed memos to the sessional coordinators on same day of the examination.
- The attendance sheets should be signed by the Internal and External examiner on duty.
- It is the duty of the teacher to provide replacement in case they are unable to give duty due to some reasons.

Paper Format:

B.Tech.

Paper duration: 1.5 hrs

Max. Marks: 24

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS

M.Tech.

Paper duration: 1.5 hrs

Max. Marks: 30

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	5	LOTS
Q2	5	HOTS
Q3	10	LOTS
Q4	10	HOTS


HOD (CSE)

Distribution:-

1. Circulate to all staff members (CSE).
2. Office Copy



Guru Nanak Dev Engineering College, Ludhiana
Department of CSE

Ref No.: CSE/126

Date: 13-2-2020

The Duty Chart for the 1st Sessional test is enclosed herewith. Following instructions should be followed by all faculty members regarding the sessionals:

- The subject teachers should prepare the common sessional paper of the subject for all the sections of a class in the prescribed format.
- The question papers should be submitted to Er. Mandeep Kaur or Er. Preeti Aggarwal by 14.02.2020
- Faculty members on invigilation duty should follow the sitting plan of the students strictly.
- The person on external duty should collect the question papers, Sitting Plans and Attendance Sheets from Er. Mandeep Kaur or Er. Preeti Aggarwal.
- It is the responsibility of the external to collect the answer sheets and hand it over to the concerned subject teacher(s) and submit the signed memos to the sessional coordinators on same day of the examination.
- The attendance sheets should be signed by the Internal and External examiner on duty.
- It is the duty of the teacher to provide replacement in case they are unable to give duty due to some reasons.

Paper Format:

B.Tech.

Paper duration: 1.5 hrs

Max. Marks: 24

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS

M.Tech.

Paper duration: 1.5 hrs

Max. Marks: 30

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	5	LOTS
Q2	5	HOTS
Q3	10	LOTS
Q4	10	HOTS




HOD (CSE)

Distribution:-

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2. Office Copy

Guru Nanak Dev Engineering College, Ludhiana
Department of Computer Science and Engineering




Date: 13-2-2020

Ref: CSE/189





Following is the committee constituted to scrutinize the quality of MST question papers. The MST question paper has to be scrutinized by the committee before using them for the test.

Chairman: Dr. Parminder Singh HOD (CSE)

Convener: UG (Dr. Vivek Thapar), PG (Dr. Sumeet Kaur Sehra)

Subject	Course Coordinator	Subject Expert	Module Coordinator
PCCS-103 Discrete Mathematics	Manpreet Kaur Mand, Prabhjot Kaur	Shailja Sharma	Manjot Kaur Gill
PCCS-104 Computer Architecture and Microprocessor	Preeti Aggarwal, Amit Jain, Gurjiwan Singh 	Kapil Sharma	Sumeet Kaur Sehra
PCCS-105 Operating Systems	Amanpreet Singh Brar, Jaswant Singh	Supreet Kaur	Vivek Thapar
PCCS-106 Data Structures	Shailja Shrama, Supreet Kaur, Mandeep Kaur Khalsa 	Gurjit Kaur	Manjot Kaur Gill
PCCS-107 Software Engineering	Priyanka Arora, Daljit Singh, Inderjit Singh 	Sumeet Kaur Sehra	Sumeet Kaur Sehra
MCCS-101 Environmental Sciences	Palak Rehan, Kapil Sharma, Harkomalpreet Kaur	Mandeep Kaur	Sumeet Kaur Sehra
CS-14601 Theory of Computation	Parminder Singh, Kuljit Kaur	Manjot Kaur Gill	Manjot Kaur Gill
CS-14602 Advanced Database Systems	Gurjit Kaur, Mandeep Kaur	Amanpreet Singh Brar	Amanpreet Singh Brar
CS-14603 Software Engineering	Manjot Kaur Gill, Vivek Thapar, Jasdeep Kaur	Gurjit Kaur	Sumeet Kaur Sehra



DECS-14608 .Net Technologies	Preeti Aggarwal, Jaswant Singh, Gurjiwan Singh 	Goldendeeep Kaur	Vivek Thapar
DECS-14606 Artificial Intelligence	Supreet Kaur, Jasmine Kaur, Palak Rehan	Diana Nagpal	Manjot Kaur Gill
CS-14701 Advanced Computer Networks	Amandeep Kaur Sohal, Kapil Sharma	Jasbir Singh Saini	Amandeep Kaur Sohal 
CS-14702 Compiler Design	Diana Nagpal, Harkomalpreet Kaur	Manjot Kaur Gill	Sumeet Kaur Sehra
CS-14703 Cyber Laws and IPR	Jasbir Singh Saini	Supreet Kaur	Gurjit Kaur
DECS-14706 Cloud Computing	Vivek Thapar	Inderjit Singh 	Manjot Kaur Gill
DECS-14707 Big Data and Business Analytics	Hardeep Singh Kang	Vivek Thapar	Amanpreet Singh Brar
DECS-14709 Natural Language Processing	Goldendeeep Kaur	Parminder Singh	Manjot Kaur Gill
DECS-14713 Soft Computing	Sumeet Kaur Sehra	Gurjit Kaur	Sumeet Kaur Sehra
MCS-103 Advance Algorithms	Manjot Kaur Gill	Shailja Sharma	Manjot Kaur Gill
MCS-104 Soft Computing	Sumeet Kaur Sehra	Kuljit Kaur	Sumeet Kaur Sehra
MCS-131 Cryptography	Amandeep Kaur Sohal	Daljit Singh	Amandeep Kaur Sohal 
MCS-143 Natural Language Processing	Parminder Singh	Manjot Kaur Gill	Manjot Kaur Gill


HOD (CSE)

Guru Nanak Dev Engineering College, Ludhiana			
Department of Computer Science and Engineering			
Program	B.Tech.(CSE)	Semester	7 th
Subject Code	CS-14701	Subject Title	Advance Computer Networks
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Amandeep Kaur Sohal Priti Aggarwal
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	16 th September 2019	Roll Number	

Note: Attempt all Questions

Q. No.	Question	COs, RBT level	Marks
Q1	Compare Straight through cable and Crossover cable with diagram.	CO1,L2	2
Q2	Analyze the role of redirection message in ICMPV4.	CO2,L4	2
Q3	Illustrate the working of DHCP including the message format.	CO3,L2	4
Q4	How ARP works in different cases. Compare it with RARP.	CO2,L1	4
Q5	Explain the three layer hierarchical network model with suitable diagram.	CO1,L5	4
Q6	a) Discuss the three way handshaking with neat and clean diagram.	CO2,L6	5
	b) Suppose in a datagram, the M bit is zero, the value of HLEN is 5, the value of total length is 200 and the offset value is 200. What is the number of the first byte and number of the last byte in this datagram? Is this the last fragment, the first fragment, or a middle fragment?	CO3,L6	3

Course Outcomes (CO)

Students will be able to

1	Apply the knowledge of various modes of communication to solve problems of data communication over different medium using various technologies.
2	Understand and utilize various communication protocols that provide reliable, ordered, and error-checked delivery of a stream of octets.
3	Design and implement various algorithms of network to ease the communication problems over different geographical areas and evaluate the level of security.
4	Compare different routing protocols and propose the optimal solution concerning different structures of networks.
5	Design and implementation of routing and transport layer protocols for advanced multi hop networks for smooth flow of data over different networks.
6	Utilize knowledge of modern mobile Adhoc network techniques to propose solutions for mobile networking demands.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Computer Science & Engineering			
Program	B.Tech.(CSE)	Semester	5
Subject Code	BTCS-14502	Subject Title	Computer Graphics
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Dr. Parminder Singh, Ms. Manpreet Kaur Mand, Ms. Mandeep Kaur Khalsa
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	17 th Sep , 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Find the refresh rate of 512*512 frame buffer, if its access time for each pixel is 200ns.	L1,CO1, CO5	2
Q2	Justify the use of data glove and digitizer in computer graphics applications.	L5,CO5	2
Q3	Compare Raster Scan and Random Scan devices.	L2,CO6	4
Q4	Explain basic 2D transformations with suitable examples. Classify them as rigid and non rigid body transformation also.	L2,CO3	4
Q5	Determine the coordinates of the pixels that lie on line segment having endpoints (20,10) and (30,18) using Bresenham's line drawing algorithm.	L5,CO2	4
Q6	Discuss in detail Mid-Point circle drawing algorithm. Predict the circle coordinates by taking center at origin and radius 6 by using this method.	L6,CO2	8

Course Outcomes (CO)

Students will be able to

1	Apply the concepts of mathematical foundations and programming to solve diverse problems related to computer graphics.
2	Compare and contrast various computer graphic algorithms and their suitability to real world problems.
3	Design and develop models for transformation of 2D and 3D objects.
4	Identify the areas of computer graphics to apply advance algorithmic techniques for changing the formations of geometrical objects.
5	Apply mathematics and physics in the design and development of graphics applications.
6	Discuss the application of computer graphics concepts in the development of computer games, information visualization, and business applications.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Department of Electrical Engineering

Guru Nanak Dev Engineering College, Ludhiana			
Department of Electrical Engineering			
Program	M.Tech.(Power)	Semester	4
Subject Code		Subject Title	
Mid Semester Test (MST) No.	1	Course Coordinator(s)	
Max. Marks	30	Time Duration	1 hour 30 minutes
Date of MST		Roll Number	
Note: Attempt all questions			
Q. No.	Question	COs, RBT level	Marks
Q1	The level of this question must be from LOTS (as per Revised Blooms Taxonomy-RBT)	CO1, L2	5
Q2	The level of this question must be from HOTS (as per Revised Blooms Taxonomy-RBT)	CO3, L5	5
Q3	The level of this question must be from LOTS (as per Revised Blooms Taxonomy-RBT)	CO4, L3	10
Q4	The level of this question must be from HOTS (as per Revised Blooms Taxonomy-RBT)	CO4, L6	10
Course Outcomes (CO) <i>Students will be able to</i>			
1			
2			
3			
4			
5			
6			

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating


Guru Nanak Dev Engineering College, Ludhiana			
Department of Electrical Technology			
Program	B.Tech.	Semester	4
Subject Code		Subject Title	
Mid Semester Test (MST) No.	1	Course Coordinator(s)	
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST		Roll Number	
Note: Attempt all questions			
Q. No.	Question	COs, RBT level	Marks
Q1	The level of this question must be from LOTS (as per Revised Blooms Taxonomy-RBT)	CO2, L2	2
Q2	The level of this question must be from HOTS (as per Revised Blooms Taxonomy-RBT)	CO2, L5	2
Q3	The level of this question must be from LOTS (as per Revised Blooms Taxonomy-RBT)	CO2, L3	4
Q4	The level of this question must be from LOTS (as per Revised Blooms Taxonomy-RBT)	CO4, L2	4
Q5	The level of this question must be from HOTS (as per Revised Blooms Taxonomy-RBT)	CO2, L6	4
Q6	The level of this question must be from HOTS (as per Revised Blooms Taxonomy-RBT)	CO4, L6	8
Course Outcomes (CO) <i>Students will be able to</i>			
1			
2			
3			
4			
5			
6			

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Department Of Electrical Engineering
Guru Nanak Dev Engineering College

The following members are required to review the question papers of MST- I *as per Blooms taxonomy*
in Power Electronics Lab, 12 noon, 15/2/2019. The discrepancies in the papers
may be informed to the concerned teachers by 2 p.m, 15/2/2019.

1. Pf. Kuldeep Singh
2. Pf Harleen Kaur
3. Pf. Gagandeep kaur


Exam Coordinator


HOD

GURU NANAK DEV ENGINEERING COLLEGE
DEPARTMENT OF ELECTRICAL ENGINEERING

Ref. M.E.E/1037

Date: 12/09/19

NOTICE

The committee consisting of

1. Pf. Shivani Abrol (Exam Coordinator)
2. Pf. Amrinder Kaur (Member, Academic Committee)
3. Pf. Kuldeep Kooner (O I/c, MSE conduct committee)
4. Pf. Gagandeep Kaur Gill (Member, MSE conduct committee)

It is constituted for the screening of MSE question papers and the below mentioned points will be utilized.

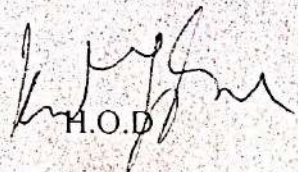
- a. Blooms testimony rules
- b. Checking of RBT levels
- c. Checking of LOT & HOT sequencing of questions
- d. Checking of numerical content wherever required

The members are required to be present in Computational Lab, PG, (Microprocessors Lab) at 11:00 a.m. on 13th September'2019 for the same.

All faculty members are requested to collect their question papers back from the sessional incharges and forward the corrections made and then take out the final prints of the papers.



Exam Coordinator


H.O.D.

Circulate to faculty

Principal for kind information

Dean Academics for kind information



GURU NANAK DEV ENGINEERING COLLEGE,
GILL ROAD, LUDHIANA (PUNJAB)
(An Autonomous College U/S [2(f) AND 12(B)] of UGC Act 1956)
AICTE Approved, Punjab Govt. Aided Status .Affiliated to I.K.Gujral
Punjab Technical University, Jalandhar, ISO : 9001:2008 Certified

No.M.Tech/01/ 3613

DATED: 10.09.2019

NOTICE

All HODs

Sub: Regarding conduct of 1st Mid Semester Examinations of Open Elective subjects.

It is hereby informed that the 1st Mid Semester Examination of Open Elective subjects for PG courses is scheduled as given below:-

Sr. No.	Program	Date
1	PG (M.Tech. Course)	17.09.2019 (Morning)

Please note that 1st Mid Semester Examination of open elective subjects will be conducted by the respective department which has offered the subject according to its time slot.

The Department HODs are requested to prepare the date sheet and seating plan of above said MST by taking into consideration the above said dates.

Distribution:-

1. Principal (for information please)
2. All HODs
3. Student Section
4. RK/Office Copy

Prof. K. S. Kaur
and Prof. G. K. Gill for n.a. h.

Dean Academics

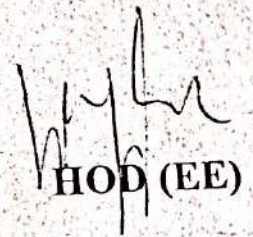
11.9.19

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
ELECTRICAL ENGINEERING DEPARTMENT

Dated: 10/02/20

NOTICE

IST-1 for January-May, 2020 session will be held from 17.02.2020, so all the faculty members taking classes in EED are requested to submit the MST-1 question papers for their subjects along with solutions in sealed envelopes latest by 12.02.2020 up to 2.00 PM (sharp) to Pf. Kuldeep Singh or Pf. Gagandeep Kaur Gill in their respective office.


HOD (EE)

KDB	SKG
KHB	USA
PTB	SC
HJB	ASG
QTB	KGB
HDB	AK
HBO	SKG
AD	GM
HT	AK
AS	KS
	AKG

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
ELECTRICAL ENGINEERING DEPARTMENT

Dated: 15/02/20

Ref. No. EE/221

NOTICE

The following committee is constituted for the screening of MSE-1 (Session Jan-May, 2020) question papers:

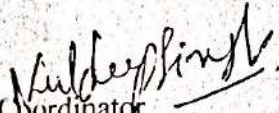
1. Pf. Khusdeep Singh
2. Pf. Harmeet Singh Gill (Dy. Controller Evaluation)
3. Pf. Shivani Abrol
4. Pf. Kuldeep Singh (Exam Coordinator & OI/c. MSE conduct committee)
5. Pf. Gagandeep Kaur Gill (Member, MSE conduct committee)
6. Pf. Amrinder Kaur (Member, Academic Committee)

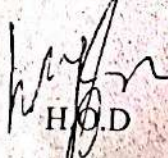
The below mentioned points will be scrutinized.

- a. Blooms Taxonomy Rules
- b. Checking of RBT levels
- c. Checking of LOT & HOD sequencing of questions.
- d. Checking of numerical content (wherever required)

The members are required to be present in Electrical Machine Lab at 3.00p.m. on 13th Feb'2020 for the same.

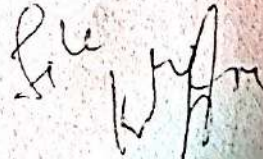
All faculty members are requested to collect their question papers back from the MSE incharges and attend the corrections made and then take out the final prints of the papers.


Exam Coordinator


H.O.D

- 1. Circulate to faculty
- 2. Principal for kind information
- 3. Dean academics for kind information

Noted
Sen



Dated: 13/02/2020

No. EE/235

NOTICE

There will be a meeting of all the faculty members at 9.00AM in Computational Lab.
Regarding MST Attendance and MST Question Paper Screening. Please make it convenient
to attend the same.

(Signature)
(EE)

.....	SKG	.....
.....	CSA	.....
.....	SG	.....
.....	ASG	.....
.....	KSK	.....
.....	HK	.....
.....	ONG	.....
.....	EDWN	.....
.....	A.K	.....
.....	K.S	.....

Program	B.Tech.(EE)	Semester	
Subject Code	EE-14402	Subject Title	
Mid Semester Test (MST) No.	2	Course Coordinator(s)	
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST		Roll Number	

Note: Attempt all questions

Q. No.	Question	COs	Marks
Q1	Define the following i) Gain Margin for Polar Plots ii) Nyquist Stability Criterion <i>Explain</i>	CO4/L2 L1	2
Q2	Write short note on Lead Compensator	CO6/L1 L2	2
Q3	Sketch the root locus for unity feedback system <i>Construct</i> $G(s) = \frac{k}{s(s+1)(s+3)}$	CO4/L6 L1	4
Q4	Draw Nyquist Plot for <i>Find</i> $G(s)H(s) = \frac{2500}{(s+3)}$ and determine Gain Margin and Phase Margin.	CO4/L6 L1	4
Q5	The asymptotic approximation of the log magnitude vs frequency plot of a system containing only real poles and zeros is shown. Obtain its transfer function <i>Evaluate</i>	CO6/L3 L5	4
Q6	Draw bode plot for the transfer function given below and from the plot find gain crossover frequency, phase crossover frequency, gain margin and phase margin. <i>Determine</i> $G(s)H(s) = \frac{10}{s(1+0.01s)(1+0.1s)}$	CO5/L4 L5	8

Course Outcomes (CO)
Students will be able to

Analyze the Control Systems by Transfer Function Models.
Evaluate the Transfer Function Models using Block Diagram Reduction or Signal Flow Graph.
Evaluate critical Time Response of Control Systems.
Design and construct the Frequency Response of Control Systems.
Evaluate the Stability Analysis of Control Systems.
Design various types of Compensators.

Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
Level 1	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Electrical Engineering

Program	B.Tech.(EE)	Semester	8
Subject Code	DEEE-14808	Subject Title	FACTS
Mid Semester Test (MST)	2	Course Coordinator(s)	Baljeet Singh
No.	24	Time Duration	1 hour 30 minutes
Max. Marks	22/04/19	Roll Number	
Date of MST			

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	List some application of TCSC?	CO2, (L2) L1	2
Q2	Define principle operation of phase shifter? Discuss	CO2, (L4) L6	2
Q3	Explain the congestion management with the help of FACTS?	CO1, L2	4
Q4	What do you understand by Thyristor Controlled Series Capacitor? How it is used to handle various problems of power system?	CO4, (L2) L1	4
Q5	A 400 kV, 50 Hz, 600 km long symmetrical line is operated at the rated voltage. A series capacitor is connected at the mid point of the line to double the power transmitted. What is its reactance? DATA: $L = 1 \text{ mH/km}$, $C = 11.1 \times 10^{-9} \text{ F/km}$. Determine	CO3, (L4) L5	4
Q6	What is the principle of operation of UPFC and also <u>explains</u> its control applications.	CO1, (L6) L5	8

Course Outcomes (CO)

Students will be able to

1	Retrieve the basics of Power Transmission System.
2	Understand the need and principle of operation of FACTS devices in Power System.
3	Understand the need of Series and Shunt Compensation.
4	Apply FACTS devices for Power System Transmission capability enhancement
5	Design of AC and DC filters for harmonics mitigation.
6	Understand modeling and control of FACTS controllers.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana			
Department of Electrical Engineering			
Program	B.Tech.(EE)	Semester	6
Subject Code	EE-14602	Subject Title	Electric Drives & Utilization
Mid Semester Test (MST)	2	Course Coordinator	Er. Ravinder Kaur
No.	24	Time Duration	1 hour 30 minutes
Max. Marks		Roll Number	
Date of MST			

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	With the help of diagram <u>explain</u> compound catenary.	CO6, L2	2
Q2	Explain practical unit of refrigeration.	CO5, <u>L4</u> L5	2
Q3	Discuss the advantages and disadvantages of the system of traction using 25kV, 50 Hz supply and DC series motor.	CO6, L1	4
Q4	Explain with the help of diagram, the working of vapour compression refrigeration system.	CO5, <u>L2</u> L1	4
Q5	How much aluminum will be produced from aluminum oxide in 24 hours if the average current is 3000A and current efficiency is 92%, aluminum is trivalent and atomic weight is 27. The chemical equivalent weight of silver is 107.98 and 0.00111 gm of silver is deposited by one coulomb?	CO4, L5	4
Q6	a). Design the heating element when the power and voltage of oven are known. b). Explain the principle of dielectric heating. Derive the mathematically expression of power consumed in such process. Discuss applications of dielectric heating.	CO3, L6	8

Course Outcomes (CO)

Students will be able to

1	Analyze different motor applications.
2	Design various illumination systems.
3	Evaluate different heating schemes for a given application
4	Understand process of electroplating.
5	Understand technology used in refrigeration and air conditioning.
6	Understand different schemes of electric traction and its main components.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Department of Electrical Engineering

Program	B. Tech.(EE)	Semester	6
Subject Code	EE-14603	Subject Title	ELECTRICAL GENERATION & ECONOMICS
Mid Semester Test (MST) No.	2	Course Coordinator	HARMEET SINGH GILL
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	24 th April 2019	Roll Number	

Note: Attempt all questions.

Q. No.	Question	COs, RBT level	Marks
Q1	Why do some companies put a penalty for low power factor?	CO3, L1	2
Q2	How fixed costs are different from operating costs?	CO3, L4	2
Q3	Explain the different methods of loading turbo generators.	CO5, L2	4
Q4	List the objectives that a utility should kept in mind while deciding the tariffs for consumers.	CO3, L1	4
Q5	<p>Compute the generation cost per kWh from the following data:</p> <p>Installed capacity = 300 MW, Capital cost = Rs 55000 per kW Interest and depreciation = 10%, Fuel consumption = 0.750 kg/kWh, Fuel cost = Rs 1500/1000 kg, Other operating cost = 30% of fuel cost Peak load = 270 MW, Load factor = 80%</p>	CO3, L5	4
Q6	<p>Two units of a thermal station have each the following cost characteristics</p> $C = 5000 + 450P + 0.5P^2 \text{ Rs/hr}$ <p>Due to an instrumentation error the cost characteristics of first unit is in error by +2% and that of the second unit is by -2% at the time of scheduling. <u>Evaluate</u> the extra operating cost due to erroneous scheduling. Total load is 300 MW.</p>	CO6, L5	8

Course Outcomes (CO)

Students will be able to

1	Evaluate and compare the performance of conventional and non-conventional energy sources.
2	Analyze the load curves and related factors for determining power generation needs.
3	Carry out economic analysis of different electric energy generation techniques.
4	Evaluate cogeneration plants.
5	Plan optimal method of loading turbo generator.
6	Justify the need of hydro thermal coordination.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana

Department of Electrical Engineering

Program	M.Tech.(Power Engg.)	Semester	2
Subject Code	MTPEE-505	Subject Title	Power System Protection
Mid Semester Test (MST)	2	Course Coordinator(s)	Er Harleen Kaur
No.	30	Time Duration	1 hour 30 minutes
Max. Marks	24/04/2019	Roll Number	
Date of MST			

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Illustrate the term Carrier Current Protection.	CO3, L2	5
Q2	Discuss any one method used for Bus-Bar protection with a neat sketch.	CO4, L6	5
Q3	Explain in detail the Construction, operating principle and working of SF6 Circuit Breaker. Give the characteristics of SF6 gas. Explain any one Arc extinguishing theory.	CO1, L2, L	10
Q4	A 50Hz, 11KV, three phase alternator with earthed neutral has a reactance of 5Ω per phase and is connected to a Bus-bar through a Circuit Breaker. The Capacitance to earth between alternator and Circuit Breaker is $0.02 \mu F$. Evaluate:- a) Maximum voltage across contacts of Circuit Breaker. b) Frequency of Oscillations. Average rate of rise of restriking voltage upto first peak.	CO1, L5	10

Course Outcomes (CO)

Students will be able to

Apply knowledge of circuit breakers to suggest suitable breaker for a particular application.
Select and model various components (like CT, CVT, and numerical relay) for protection
Design and simulate over current, distance and differential protection schemes for power system.
Develop the advanced schemes for power system protection using new technologies.

BT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
BT Level number						
BT Level name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana
Department of Electrical Engineering

Program	B.Tech. (PE1-2/CE3-4)	Semester	2 nd
Subject Code	ESC-18101	Subject Title	Basic Electrical Engineering
Mid Semester Test (MST)	2 nd	Course Coordinator(s)	Er. Arshdeep Kaur
No.	24	Time Duration	1 hour 30 minutes
Max. Marks	24.04.2019	Roll Number	
Date of MST			

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	A lead acid cell maintains a constant current of 2A for 15 hours before its terminal voltage falls to 1.8 V. What is the capacity of the cell?	CO1, L1	2
Q2	Explain the term earthing. What is the need of earthing?	CO2, L5	2
Q3	Enlist the different starting method of single phase induction motor and explain any one in detail.	CO2, L1, L2	4
Q4	Define switchgears and explain the various component used in LT switchgears?	CO5, L1	4
Q5	Plot and explain the torque slip characteristics of three phase induction motor and mention the various operating regions on same. <i>Explain</i>	CO2, L5, 6	4
Q6	a. Illustrate the losses occurring in a transformer. b. Define efficiency and find the condition for obtaining maximum efficiency.	CO5, L5	8

Course Outcomes (CO)

Students will be able to

1	Analyze the behavior of electrical and magnetic circuits.
2	Inculcate the understanding about the ac fundamentals.
3	Realize the requirement of transformer in transmission and distribution of electric power and other application.
4	Select the type of generator /motor required for a particular application.
5	Analyze the various electrical networks.
6	Recognize the various measuring instruments.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number						
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Guru Nanak Dev Engineering College, Ludhiana
Department of Electrical Engineering

Program	M.Tech.(PW)	Semester	2 nd
Subject Code	MTPEE - 615	Subject Title	
Mid Semester Test	11	Course	Optimization Techniques
(MST) No.	30	Coordinator(s)	Er. Arshdeep Kaur
Max. Marks	22/4/2019	Time Duration	1 hour 30 minutes
Date of MST		Roll Number	

Note: Attempt all questions

Note: Attempt all questions		Question		COs, RBT level	Marks																																					
Q. No.		What is																																								
Q1		Write a short note on conjugate gradient method.		CO4, L2	5																																					
Q2		Minimize $f(x) = x_1^2 + x_2^2 - 2x_1 - 4x_2 + 5$ using steepest decent method.		CO4, L5	5																																					
Q3		What are the interpolation methods for optimization? Find the minimum of $f(x) = x^5 - 5x^3 - 20x + 5$ using cubic interpolation method.		CO2, L1, L3	10																																					
Q4		<p>A transport company ships truck load of grains from three silos to four mills. The gross supply from silos and gross demand of mills is given by the following table.</p> <table border="1"> <tr> <td>s.no</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr> <td>Supply from silos</td><td>15</td><td>25</td><td>10</td><td>...</td></tr> <tr> <td>Demand of mills</td><td>5</td><td>15</td><td>15</td><td>15</td></tr> </table> <p>The grains transportation costs per truckload from i^{th} silo to j^{th} mill are given by the following matrix</p> <table border="1"> <tr> <td></td><th colspan="4">mills</th></tr> <tr> <th rowspan="4">silos</th><td>10</td><td>2</td><td>20</td><td>11</td></tr> <tr> <td>12</td><td>7</td><td>9</td><td>20</td></tr> <tr> <td>4</td><td>14</td><td>16</td><td>18</td></tr> <tr> <td></td><td></td><td></td><td></td></tr> </table> <p>Give problem formulation for minimization of transportation cost. Find initial feasible solution by using any two transportation method.</p>		s.no	1	2	3	4	Supply from silos	15	25	10	...	Demand of mills	5	15	15	15		mills				silos	10	2	20	11	12	7	9	20	4	14	16	18					CO3, L6	10
s.no	1	2	3	4																																						
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Demand of mills	5	15	15	15																																						
	mills																																									
silos	10	2	20	11																																						
	12	7	9	20																																						
	4	14	16	18																																						

Course Outcomes (CO)

Students will be able to

- Classify the optimization problems and their solution methods into various categories.
- Understand and apply analytical methods for the solution of unconstrained and constrained optimization problems with continuous variables.
- Develop mathematical model and find optimal solutions of linear programming and transportation problems.
- Understand and apply analytical methods for the solution of single and multi-variable unconstrained and constrained optimization problems with non-continuous variables

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number			Applying	Analyzing	Evaluating	Creating
RBT Level	Remembering	Understanding				

Department of Information Technology Engineering

Mid Semester Examination - I (Jan-May, 2019) (B.Tech. IT and MCA)
DUTY CHART (Teaching & Non-Teaching Staff)

Date	Time	213	214	215	216	217	218	219	External Duty & Attendant Duty
20 th February, 2019 (Wednesday)	10:30 am to 12:00 noon	Mohanjit Kaur (CC)	Akshay Girdhar	Jasbir Singh Saini (CSE)	Amit Kamra	Pankaj Bhanbri	K. S. Mann	Sidharth Jain	Hanit Karwal (A: Nath Singh)
21 st February, 2019 (Thursday)	10:30 am to 12:00 noon	Sachin Bagga	Harjot Kaur	Pradeep Jaswal	Dinesh Anand	Mohanjit Kaur (CC)	Yadvir Kaur	Hanit Karwal (A: Sukhjinder Singh)	Ranjodh Kaur
22 nd February, 2019 (Friday)	10:30 am to 12:00 noon	Yadvir Kaur	Gagandeep Kaur (CSE)	Dinesh Anand	Kamaljit Kaur	Harjot Kaur	Harpreet Kaur	Sachin Bagga	Rupinder Kaur (A: Navdeep Singh)
23 rd February, 2019 (Saturday)	10:30 am to 12:00 noon	Ranjodh Kaur	Rupinder Kaur	Sandeep Singla	Sidharth Jain	Dinesh Anand	Sachin Bagga	Harpreet Kaur	Yadvir Kaur (A: Kewal Singh)
25 th February, 2019 (Monday)	10:30 am to 12:00 noon	Pankaj Bhanbri	Ranjodh Kaur	Kamaljit Kaur	Kiran Jyoti	Amit Kamra	Rupinder Kaur	Harjot Kaur	Harpreet Kaur (A: Avtar Singh)

Note 1: Invigilators are advised not to use Mobile phones during the examination duty.

Note 2: Invigilators must submit the answer sheets sorted according to the University roll numbers.

Note 3: Faculty members must prepare the QP as per the format attached


Paper Format:

B.Tech.

Paper duration: 1.5 hrs

Max. Marks: 24

Ques No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS


HOD(H)

Guru Nanak Dev Engineering College, Ludhiana

Department of Information Technology

No. IT/36/258 - 20/2/18

Dated: - 27-02-2018

Principal

Vide Ref. No. NBA/104/21 dated 21.02.2018, following modules are formed for effective implementation of "Outcome Based Education Model" in the department. The Module Coordinator is supposed to coordinate and see that CO for different Subjects are mapping effectively with the identified PO of the department and accordingly, to take corrective action if feed arises and to guide the Course Coordinator in this regards.

Module – 1	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Programming	Raninder Kaur	FCPIT	Ranjodh Kaur
		Advance Java	Sandeep Kumar Singla
		Agile S/W	Sandeep Kumar Singla
		Development	

Module – 2	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
System Administration and Maintenance	Parminder Kaur Wadhwa	Operating System	Raninder Kaur Dhillon
		Computer Architecture & Mocroprocessor	Parminder Kaur Wadhwa

Module – 3	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Basic Scence and Engineering	Inderjeet Singh	Probability and Statistics	Rupinder Kaur

Module – 4	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Networking	Manpreet Singh	Data Communication & Computer Network	Manpreet Singh

Module – 5	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Web System & Technologies	Kulwinder Singh Mann	Web Technologies	Akshay Girdhar

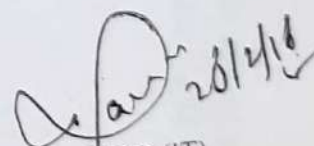
Module – 6	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
System Intergration and Architecture	Kamaljit Kaur	Software Engineering and Testing	A.nit Kamra

Module – 7	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Information Assurance and Security	Amit Kamra	Information Assurance & Security	Lovepreet Kaur
		E-Commerce Building	Kulwinder Singh Mann

Module – 8	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Information Management	Kiran Jyoti	Information Storage & Management	Pardeep Kumar Jaswal
		Big Data Analytics	Kiran Jyoti
	Pardeep Kumar Jaswal	Management Information System	Inderjeet Singh Mohanjit Kaur Kang Pankaj Bhambri
		Corporate IT Management	Raninder Kaur
		Database Management System	Kamaljit Kaur

Module – 9	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Human Computer Interaction	Pankaj Bhambri	Multimedia & Application	Mohanjit Kaur Kang
		Building Enterprise and Application	Kiran Jyoti
		ICT in Agriculture & Rural Development	Harjot Kaur
		Engineering Entrepreneurship	Pardeep Kumar Jaswal
		Bioinformatics	Pankaj Bhambri

Module – 10	Module Coordinator	Subjects (Theory & Practicsl)	Course Coordinator
Advance Courses	Inderjeet Singh	Majot Project	Inderjeet Singh


HOD (IT)

Distribution:

- (i) All Faculty Members of Deptt.
- (ii) Deptt. NBA File

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
DEPARTMENT OF IT

Dated 22/02/18

Ref. No. 17/08/256

DUTY-CHART FOR 1st MST (5March. 2018 to 9March. 2018)

Room No.	213	214	215	216	217	218	(External Duty)
Date							
5/03/2018 (Monday) (10:30 - 12:00)	Akshay Girdhar	Mohanjit Kaur	Amit Kamra	Harjot kaur	Raninder Kaur	Parminder K Wadhwa	Jagraj Singh
6/03/2018 (Tuesday) (10:30 - 12:00)	K.S Mann	Parminder K Wadhwa	Inderjeet Singh	Mohanjit Kaur	Pankaj Bhambri	Amit Kamra	Jagraj Singh
7/03/2018 (Wednesday) (10:30 - 12:00)	Pardeep Kumar	Kamaljit kaur	Ranjodh Kaur	Rupinder Kaur	Kiran Jyoti	Raninder Kaur	Davinder Kaur
8/03/2018 (Thursday) (10:30 - 12:00)	Manpreet Singh	Lovepreet Kaur	Rupinder Kaur	Sachin Bagga	Pankaj Bhambri	Sandeep Singla	Davinder Kaur
9/03/2018 (Friday) (10:30 - 12:00)	Kiran Jyoti	Lovepreet Kaur	Sachin Bagga	Harjot Kaur	Sandeep Singla	Inderjeet Singh	Davinder Kaur


HOD (IT)

CC: Circulation to all Staff Members (IT), Office Copy
 Note: Students without Identity Card is not allowed to sit in exam

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA.B.TECH
(INFORMATION TECHNOLOGY) SEMESTER 5th
DISCRETE MATHS (IT- 14501)

MST 1 QUESTION PAPER

Guru Nanak Dev Engineering College, Ludhiana			
Department of Information Technology			
Program	B.Tech.(IT)	Semester	5
Subject Code	IT-14501	Subject Title	Discrete Maths
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Er. Hanit Karwal
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	17 th Sep, 2018	Roll Number	

Note: 1. Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define Partial Order Relation with example	CO3, L1	2
Q2	Find Contrapositive, Converse and Inverse of the statement "P". P: "Indian team wins whenever match is played in Mohali, home town of Yuvraj"	CO4, L4	2
Q3	If $f, g, h : R \rightarrow R$ are defined by $f(x) = x + 2$, $g(x) = 1/(x^2 + 1)$, $h(x) = 5$. Find (i) $g \circ h \circ f(x)$ (ii) $f^{-1} \circ g \circ f(x)$ (iii) $f \circ g \circ h(x)$ (iv) $g \circ f^{-1} \circ f(x)$	CO2, L3	4
Q4	In a class of 120 students, 65 like Maths, 20 like both Maths & Science, 45 like Science, 25 like both Maths & English, 42 like English, 15 like both Science & English, 8 like all three subjects. (a) Find how many students like at least one of the three subjects. (b) Find how many students like only one subject.	CO1, L3	4
Q5 (a) (b)	Sate Pigion Hole Principle. In how many ways can the letters of the word "SPECIAL" be arranged in a row such that the vowels occupy only odd positions	CO5, L6	4
Q6	Solve the Recurrence Relation for a general solution $S_n - 6S_{n-1} + 8S_{n-2} = 0$; $n \geq 2$ Given: $S_0 = 10$ and $S_1 = 25$	CO5, L5	8

Course Outcomes (CO)

Students will be able to

1	Study and apply the basic concepts of set theory, Inclusion and Exclusion Principle to solve applied problems
2	Determine the domain and range functions, identify one-to-one functions, perform the composition of functions, find and/or graph the inverse of a function, and apply the properties of functions to application problems.
3	Apply conceptual knowledge of Relation theory for identifying type of relations, finding composition and closure properties of relations and classifying the relations into different types including Equivalence relations, Compatibility relations and Partial Order relations
4	Formulate convincing arguments, conceive and/or analyze basic mathematical proofs and

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA.B.TECH
(INFORMATION TECHNOLOGY) SEMESTER 5th
DISCRETE MATHS (IT- 14501)

	discriminate between valid and unreliable arguments.
5	Study the various counting principle, permutation, and combination and recurrence relation and solve the related problems.
6	Identify, formulate and solve the complex engineering problems like shortest path and minimal spanning trees using properties and concept of graphs
7	Ability to discriminate and identify the basic properties related to various algebraic entities

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA.B.TECH
(INFORMATION TECHNOLOGY) SEMESTER 5th
DISCRETE MATHS (IT- 14501)

MST 1 QUESTION PAPER

Guru Nanak Dev Engineering College, Ludhiana			
Department of Information Technology			
Program	B.Tech.(IT)	Semester	5
Subject Code	IT-14501	Subject Title	Discrete Maths
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Er. Hanit Karwal
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	17 th Sep, 2018	Roll Number	

Note: 1. Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define Partial Order Relation with example	CO3, L1	2
Q2	Find Contrapositive, Converse and Inverse of the statement "P". P: "Indian team wins whenever match is played in Mohali, home town of Yuvraj"	CO4, L4	2
Q3	If $f, g, h : R \rightarrow R$ are defined by $f(x) = x + 2$, $g(x) = 1/(x^2 + 1)$, $h(x) = 5$. Find (i) $g \circ h \circ f(x)$ (ii) $f^{-1} \circ g \circ f(x)$ (iii) $f \circ g \circ h(x)$ (iv) $g \circ f^{-1} \circ f(x)$	CO2, L3	4
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Q5 (a) (b)	Sate Pigion Hole Principle. In how many ways can the letters of the word "SPECIAL" be arranged in a row such that the vowels occupy only odd positions	CO5, L6	4
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Course Outcomes (CO)

Students will be able to

1	Study and apply the basic concepts of set theory, Inclusion and Exclusion Principle to solve applied problems
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GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA.B.TECH
(INFORMATION TECHNOLOGY) SEMESTER 5th
DISCRETE MATHS (IT- 14501)

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RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

Department of Mechanical Engineering

ME/35/4559

Guru Nanak Dev Engineering College Ludhiana

Department of Mechanical Engineering

Date 11/09/19

Instructions for Conduct of MSE

- The subject teachers should prepare the common sessional paper of the subject for all the sections of a class in the prescribed format. Before submitting the question paper it must be checked by course coordinator for the quality purpose.
- The question paper should be submitted to Er. Satwant singh and Er. Jasvir Singh by 14.09.2019.
- Faculty members on invigilation duty should follow the sitting plan of the students strictly. It is the duty of the teacher to provide replacement in case they are unable to give duty due to some reasons.
- The attendance sheet should be signed by internal and external examiner on duty. It is the responsibility of the external to collect the answer sheets and hand it over to the Er. Jasvir Singh and Er. Satwant Singh.
- The person on external duty should collect the question papers, Sitting plans and attendance sheets from Er. Satwant Singh or Er. Jasvir Singh.

Question Paper Format:

B.Tech.

Paper duration: 1hr 30 mins

Max. Marks: 24

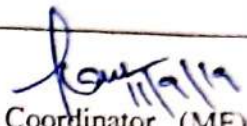
Question No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS

M.Tech.

Paper duration: 1hr 30 mins

Max. Marks: 30

Question No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	5	LOTS
Q2	5	HOTS
Q3	10	LOTS
Q4	10	HOTS


Exam Coordinator (ME)

Distribution:-

1. Circulate to all staff members(ME)
2. Office copy.
3. For soft template of question paper refer Exam Portal.

ME/35/4559

Guru Nanak Dev Engineering College Ludhiana

Department of Mechanical Engineering

Date 11/09/19

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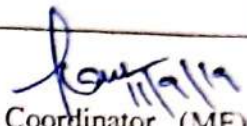
Question No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	2	LOTS
Q2	2	HOTS
Q3	4	LOTS
Q4	4	LOTS
Q5	4	HOTS
Q6	8	HOTS

M.Tech.

Paper duration: 1hr 30 mins

Max. Marks: 30

Question No.	Marks	Level of question as per Revised Bloom's Taxonomy
Q1	5	LOTS
Q2	5	HOTS
Q3	10	LOTS
Q4	10	HOTS


Exam Coordinator (ME)

Distribution:-

1. Circulate to all staff members(ME)
2. Office copy.
3. For soft template of question paper refer Exam Portal.

ME/35/4559

Guru Nanak Dev Engineering College Ludhiana

Date 11/09/09

Department of Mechanical Engineering

All the Question Papers MSE-I Sept 2019 has to be Scrutinized by the committee before using them for the test.

Chairman –DR..P.S BILGA HOD(ME)

Convener-DR.. Jatinder Kapoor

Subject	Subject Course Teachers	Course Coordinator	Subject Course Expert	Module Coordinator
SOM- I	Er. Manmohan Singh Er.Sukhinderpal Singh Dr. Raman Kumar	Er.Sukhinderpal Singh	Er. Manmohan Singh	Dr.Harwinder Singh
EM	Er. Jaswinder Singh Er. Ramandeep Singh Dr. Harish Kumar	Er. Ramandeep Singh	Er. Jaswinder Singh	
M D & CAD	Er. Jasvir Singh Er. Gurwant Singh Er. Prem Singh Er. Satjot Singh Dhillon Er.Davinder Singh Bhogal Er. Chamkaur Jindal Er. Deepak Dhand Er. Bhupinder Singh Dhillon	Er. Jasvir Singh 1/k	Er.Davinder Singh Bhogal	
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	Er.Sukhinderpal Singh Er. Sukhjeet Singh			
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Automobile	Er. Balwinder Singh	Er.Sukhinderpal Singh	Dr. Harmeet Singh	
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EMM	Er. Ardamanbir Singh Er.Gurmeet Kaur Er. Gurpreet Singh	Er.Gurmeet Kaur	Er. Ardamanbir Singh	
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GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
(An Autonomous College w/s 2 (f) and 12 (B) of UGC Act 1956)
MECHANICAL ENGG. DEPARTMENT

NO. ME/03/4862


Date 8/11/2019

OFFICE ORDER

In reference to Notice No. NBA/0104/21 dated 21.02.2018. Following department level Scrutiny Committee for Quality of Question papers is constituted:-

1. HOD- Chairman
2. Concerned course coordinator- Member
3. Concerned Subject/Course Expert-Member
4. Concerned Module Coordinator-Member
5. Department NBA Incharge-**Convenor**

This committee will scrutinize the quality of MST question papers, external question papers or any other question papers related to the Academics and to ensure that the setting of the same will be as per the approved templates and using the revised Bloom's Taxonomy (RBT) standard terms (LOTS and HOTS) and related verbs/phrases. **The Convenor** shall conduct meeting/s before each MST as well as end of End Semester Examinations during odd & even semester.


Pf. & Head 08/11/2019

CC :

1. Controller of Examinations
2. Institutional Coordinator Accreditation (NBA)
3. Dean Academics
4. Principal for information

Guru Nanak Dev Engineering College, Ludhiana

Department of Mechanical Engineering

Program	B.Tech.(ME)	Semester	5
Subject Code	ME-14501	Subject Title	Design of Machine Elements-I
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Harwinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Sept. 16, 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	How design and creativity are interrelated with each other?	CO1, L1	2
Q2	Outline effects of stress concentration.	CO2, L2	2
Q3(a)	A 45 mm diameter shaft is made of steel with a yield strength of 400 MPa. A parallel key of size 14 mm wide and 9 mm thick made of steel with a yield strength of 340 MPa is to be used. Find the required length of key, if the shaft is loaded to transmit the maximum permissible torque. Use maximum shear stress theory and assume a factor of safety of 2.	CO5, L5	5
(b)	A rotating bar made of steel 45C8 ($S_{ut} = 630 \text{ N/mm}^2$) is subjected to completely reversed bending stress. The corrected endurance limit of the bar is 315 N/mm^2 . Determine the fatigue strength of the bar for a life of 90000 cycles.	CO3, L4	5
Q4	Design and draw a protective type of cast iron flange coupling for a steel shaft transmitting 15 kW at 200 r.p.m. and having an allowable shear stress of 40 MPa. The working stress in the bolts should not exceed 30 MPa. Assume that the same material is used for shaft and key and that the crushing stress is twice the value of its shear stress. The maximum torque is 25% greater than the full load torque. The shear stress for cast iron is 14 MPa.	CO6, L5, L6	10

Course Outcomes (CO)

Students will be able to

1	Remember the meaning of machine design and types of design processes.
2	Understand various design considerations like stress concentration factor and factor of safety.
3	Design of various basic machine components under different loading conditions.
4	Analyse the fastening processes like welding, riveting etc. for different applications.
5	Evaluate machine members like levers, shafts, axles, keys, coupling and cotter etc. as per different requirements in the industry.
6	Create the design and suggest/apply suitable modifications in the design

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)			
	L1	L2	L3	L4	L5	L6	
	RBT Level Number	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
RBT Level Name							

Program	B.Tech.(Mech)	Semester	3
Subject Code	ME 14305	Subject Title	MANUFACTURING PROCESSES -I
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Jatinder Kapoor
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	September, 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What are the fundamental requirements of any metal casting process?	CO1, L1	2
Q2	Why are allowances given on a pattern? Name any five pattern allowances?	CO2, L2	2
Q3	Explain with a suitable sketch the gravity die casting process. Compare this process with pressure die casting?	CO6, L4	4
Q4	What will be the solidification time for a 1100mm diameter and 33 mm thick casting of aluminum if the mould constant is 2.2sec/mm ²	CO3, L6	4
Q5	Give the construction of CUPOLA furnace. What types of metals are generally melted in Cupolas and why?	CO2, L1, L3	4
Q6	What are different variants of centrifugal casting? Explain with neat sketch True and semi centrifugal casting process?	CO1, L5, L2	8

Course Outcomes (CO) Students will be able to

- 1 Use the Knowledge of Fundamental principles of Castings processes for their practical applications
- 2 Identify and suggest equipments, tools and accessories required for performing the casting processes.
- 3 Design the riser and gating system for casting processes
- 4 Test the products made by casting and welding processes using destructive and non-destructive means so as to appreciate their utility
- 5 Design the weld joints and select suitable welding electrodes and consumables for various welding processes
- 6 Understand the latest technologies in casting and welding processes

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number				Analyzing	Evaluating	Creating
RBT Level Name	Remembering	Understanding	Applying			

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
(An Autonomous College u/s 2 (f) and 12 (B) of UGC Act 1956)
DEPARTMENT OF MECHANICAL ENGINEERING

Notice

Following Committee has been constituted to scrutinize the quality of both MST question papers (before using them for the test):-

1. HOD Dr. P.S. Bilga –Chairman
2. Concerned Course Coordinator-Member
3. Concern Subject/Course Expert-Member
4. Concern Module Coordinator-Member
5. Deptt NBA I/c-Dr. Jatinder Kapoor-Convenor

All the faculty are requested to get their MST question paper approved from the aforesaid committee before handing it to the Examination Conduct Team.


Pf & Head 21/9/18

CC:

1. Institutional Coordinator Accreditation (NBA)
2. Dean Academics
3. Dr. Jatinder Kapoor to convene the meetings
4. Examination Conduct Team
 - (a) Er. Gurmeet Kaur
 - (b) Er. Jasvir Singh
 - (c) Er. Satwant Singh

ME/35/4559

Guru Nanak Dev Engineering College Ludhiana

Date 11/09/09

Department of Mechanical Engineering

All the Question Papers MSE-I Sept 2019 has to be Scrutinized by the committee before using them for the test.

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Convener-DR.. Jatinder Kapoor

Subject	Subject Course Teachers	Course Coordinator	Subject Course Expert	Module Coordinator
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NO. ME/03/4862


Date 8/11/2019

OFFICE ORDER

In reference to Notice No. NBA/0104/21 dated 21.02.2018. Following department level Scrutiny Committee for Quality of Question papers is constituted:-

1. HOD- Chairman
2. Concerned course coordinator- Member
3. Concerned Subject/Course Expert-Member
4. Concerned Module Coordinator-Member
5. Department NBA Incharge-**Convenor**

This committee will scrutinize the quality of MST question papers, external question papers or any other question papers related to the Academics and to ensure that the setting of the same will be as per the approved templates and using the revised Bloom's Taxonomy (RBT) standard terms (LOTS and HOTS) and related verbs/phrases. **The Convenor** shall conduct meeting/s before each MSTas well as end of End Semester Examinations during odd & even semester.


Pf. & Head 08/11/2019

CC :

1. Controller of Examinations
2. Institutional Coordinaor Accreditation (NBA)
3. Dean Academics
4. Principal for information

Guru Nanak Dev Engineering College, Ludhiana

Department of Mechanical Engineering

Program	B.Tech.(ME)	Semester	5
Subject Code	ME-14501	Subject Title	Design of Machine Elements-I
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Harwinder Singh
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	Sept. 16, 2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	How design and creativity are interrelated with each other?	CO1, L1	2
Q2	Outline effects of stress concentration.	CO2, L2	2
Q3(a)	A 45 mm diameter shaft is made of steel with a yield strength of 400 MPa. A parallel key of size 14 mm wide and 9 mm thick made of steel with a yield strength of 340 MPa is to be used. Find the required length of key, if the shaft is loaded to transmit the maximum permissible torque. Use maximum shear stress theory and assume a factor of safety of 2.	CO5, L5	5
(b)	A rotating bar made of steel 45C8 ($S_{ut} = 630\text{N/mm}^2$) is subjected to completely reversed bending stress. The corrected endurance limit of the bar is 315N/mm^2 . Determine the fatigue strength of the bar for a life of 90000 cycles.	CO3, L4	5
Q4	Design and draw a protective type of cast iron flange coupling for a steel shaft transmitting 15 kW at 200 r.p.m. and having an allowable shear stress of 40 MPa. The working stress in the bolts should not exceed 30 MPa. Assume that the same material is used for shaft and key and that the crushing stress is twice the value of its shear stress. The maximum torque is 25% greater than the full load torque. The shear stress for cast iron is 14 MPa.	CO6, L5, L6	10

Course Outcomes (CO)

Students will be able to

1	Remember the meaning of machine design and types of design processes.
2	Understand various design considerations like stress concentration factor and factor of safety.
3	Design of various basic machine components under different loading conditions.
4	Analyse the fastening processes like welding, riveting etc. for different applications.
5	Evaluate machine members like levers, shafts, axles, keys, coupling and cotter etc. as per different requirements in the industry.
6	Create the design and suggest/apply suitable modifications in the design

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)			
	L1	L2	L3	L4	L5	L6	
	RBT Level Number	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
RBT Level Name							

Program	B.Tech.(Mech)	Semester	3
Subject Code	ME 14305	Subject Title	MANUFACTURING PROCESSES -I
Mid Semester Test (MST) No.	1	Course Coordinator(s)	Dr. Jatinder Kapoor
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	September, 2018	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What are the fundamental requirements of any metal casting process?	CO1, L1	2
Q2	Why are allowances given on a pattern? Name any five pattern allowances?	CO2, L2	2
Q3	Explain with a suitable sketch the gravity die casting process. Compare this process with pressure die casting?	CO6, L4	4
Q4	What will be the solidification time for a 1100mm diameter and 33 mm thick casting of aluminum if the mould constant is 2.2sec/mm ²	CO3, L6	4
Q5	Give the construction of CUPOLA furnace. What types of metals are generally melted in Cupolas and why?	CO2, L1, L3	4
Q6	What are different variants of centrifugal casting? Explain with neat sketch True and semi centrifugal casting process?	CO1, L5, L2	8

Course Outcomes (CO) Students will be able to

- 1 Use the Knowledge of Fundamental principles of Castings processes for their practical applications
- 2 Identify and suggest equipments, tools and accessories required for performing the casting processes.
- 3 Design the riser and gating system for casting processes
- 4 Test the products made by casting and welding processes using destructive and non-destructive means so as to appreciate their utility
- 5 Design the weld joints and select suitable welding electrodes and consumables for various welding processes
- 6 Understand the latest technologies in casting and welding processes

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
RBT Level Number				Analyzing	Evaluating	Creating
RBT Level Name	Remembering	Understanding	Applying			

Department of MCA

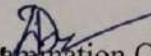
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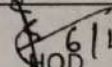
Dated:- 06-11-2019

Guru Nanak Dev Engineering College, Ludhiana
Department of Computer Applications

Question Paper checking panel is as under:-

S. No.	Sem.	Sub Code	Subject Title	Scheme	Name of Subject teacher	Name of Paper checker
1	3	DEMCA-15307	System Programming	2015	Prof. Satinder Singh	Prof. Jasbir Singh
2	3	MCA-15301	Database Administration	2015	Prof. Karamvir Kaur	Prof. Amit Jain
3	3	MCA-15302	Computer Based Optimization Techniques	2015	Prof. Rupinderjit Kaur	Prof. Amit Jain
4	3	MCA-15303	Software Engineering	2015	Prof. Dinesh Anand	Prof. Jasbir Singh
5	3	MCA-15304	Java Programming	2015	Prof. Amit jain	Prof. Dinesh Anand
6	5	DEMCA-15507	Network Security and Administration	2015	Prof. Jasbir Singh	Prof. Dinesh Anand
7	5	MCA-15501	Interactive Computer Graphics	2015	Prof. Dinesh Anand	Prof. Amit Jain
8	5	MCA-15502	Web Technologies	2015	Prof. Mandeep kaur	Prof. Dinesh Anand
9	5	MCA-15503	Object Oriented Analysis and Design with UML	2015	Prof. Karamvir Kaur	Prof. Jasbir Singh


Examination Coordinator

 6/11/19.
MOD

Guru Nanak Dev Engineering College, Ludhiana

Department of Computer Applications

Program	MCA	Semester	5 th
Subject Code	MCA-15503	Subject Title	Object Oriented Analysis and Design Using UML
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Er. Karamvir Kaur
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	16.11.2019	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	What is Singleton Design Pattern?	CO1, L1	2
Q2	Write short note on Argo UML.	CO1, CO2, L2	2
Q3	List various UML diagrams. Discuss the purpose of various UML diagrams.	CO3, CO4, L3	4
Q4	Explain the use of class design. Discuss the following in relation to a class design: Use cases and Refactoring.	CO3, L4	4
Q5	Share your views on Reverse Engineering and Open source Tools in UML.	CO5, L5	4
Q6	Elaborate on various logic modeling tools. Explain each in detail.	CO5, CO6, L6	8

Course Outcomes (CO)

Students will be able to

1	Signify the fundamental principles of Object Oriented Analysis and Design.
2	Identify and analyze the key principles in Object Oriented analysis, design, and development.
3	Determine the application of the Unified Modeling Language (UML) towards analysis and design.
4	Adapt the common patterns in Object Oriented design and implementation.
5	Analysis of the development process as a part of a business.
6	Simplify the development of new software.

RBT Classification	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating