

Roll No. _____

B. Tech (CE/CSE/ME/ECE) 4th Semester
Universal Human Values – 13010402/13020405/13030403/13040404
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 50

Instructions:

1. Write Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint in this regard will be entertained thereafter.
3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Answer the following Questions.

(5X2=10)

- (a) List three differences between the needs of the self and the body.
- (b) Significance of value inputs in the class room.
- (c) Define five dimensions of Human Endeavour.
- (d) What do you understand by social ethics?
- (e) Issues in professional ethics.

Attempt any FOUR Questions from the following:

- Q.2. Define value education. Explain its concept, process and guidelines of value education. **(10)**
- Q.3. Give the meaning of 'innateness'? Describe the innateness of the four orders in nature. **(10)**
- Q.4. Analyze how the needs of the self are continuous in time and limited in quantity, while those of the body are not **(10)**
- Q.5. Explain the process of self exploration using an example.
- Q.6. Define the term "Harmony in the family, society and nature". **(10)**
- Q.7. Explain the term 'holistic' as it applies to technologies. Name any four holistic technologies that are worthy of deployment in cities. **(10)**

Roll No. _____

B. Tech.(CE/ME) – 4TH SEMESTER
NUMERICAL METHOD & COMPUTATIONAL TECHNIQUES –
13010403/ 13030402
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1.** Answer the following Questions. (2X5=10)
- a) Define Interpolation and its uses.
 - b) Discuss Gauss-Jordon Method.
 - c) Discuss the advantage of Numerical Integration.
 - d) What is Modified Euler's formula.
 - e) State five point formula in Partial Differential Equation.

UNIT-I

- Q.2.** Apply Newton's forward formula to find the polynomial and also find $f(22)$ from the table:

X	20	25	30	35	40	45
f(X)	354	332	291	260	231	204

(10)

OR

- Q.3.** Using Newton's Divided Difference formula, evaluate $f(8)$ and $f(15)$ from the table:

X	4	5	7	10	11	13
f(X)	48	100	294	900	1210	2028

(10)

UNIT-II

- Q.4.** Find the value of $\cos(1.74)$ from the following data :

X	1.70	1.74	1.78	1.82	1.86
Sinx	0.9916	0.9857	0.9781	0.9691	0.9584

(10)

OR

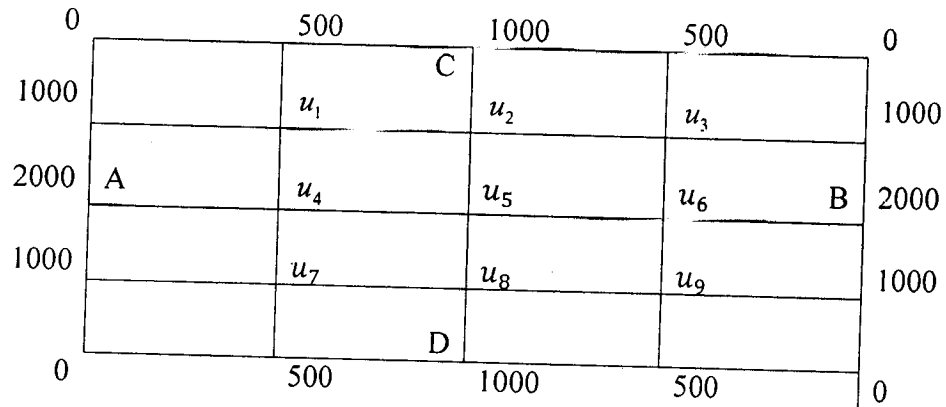
- Q.5.** Solve $\int_0^6 \frac{dx}{1+x^2}$ using Trapezoidal Rule and Simpson's Rule. What are the merits of Numerical Integration. (10)

UNIT-III

Q.6. Apply Runge Kutta method to find an approximate value of y when $x = 0.2, 0.4, 0.6$ given that: $\frac{dy}{dx} = x + y$. and $y = 1$ when $x = 0$. (10)

OR

Q.7. Solve the elliptic equation $u_{xx} + u_{yy} = 0$ for the following square mesh with boundary value as shown in fig.



(10)

UNIT-IV

Q.8. Solve the equation $27x + 6y - z = 85$, $x + y + 54z = 110$, $6x + 15y + 2z = 72$. By Jacobi's Iterations method. (10)

OR

Q.9. Find the root of $x^3 - x = 10$ correct to three decimal places, Using Newton- Rapson method. (10)

B. Tech (CE), 4th Semester
STRUCTURAL ANALYSIS & CODE- 13010404
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

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4. Draw diagram wherever required.

Q.1. Answer the following Questions.

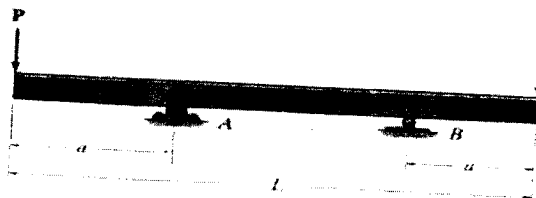
(2X5=10)

- a) Explain moment area theorem.
- b) Explain Betti's law.
- c) What do you understand by strain energy?
- d) What do you understand by Fixed End Moment?
- e) Show the two different situation in which even the number of unknown support reaction are equal to the number of available equilibrium equation but the structure are unstable.

UNIT-I

Q.2. At what distance a should the bearing supports at A and B be placed so that the deflection at the center of the shaft is equal to the deflection at its ends? Use the moment area theorems. The bearings exert only vertical reaction on the shaft. EI is constant.

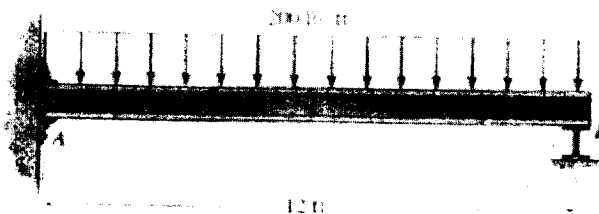
(10)



OR

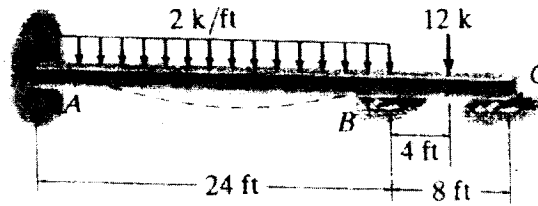
Q.3. Determine the reaction at the supports. Assume the support at A is fixed and at B is roller. EI is constant.

(10)



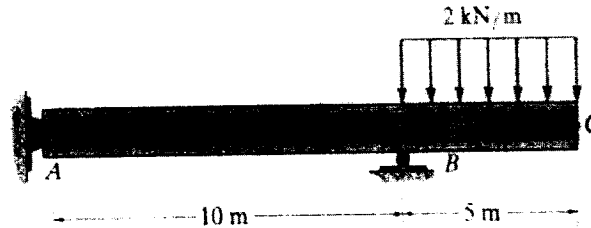
UNIT-II

- Q.4.** Using slope deflection method draw the shear and moment diagram for the beam shown in the figure below. (10)



OR

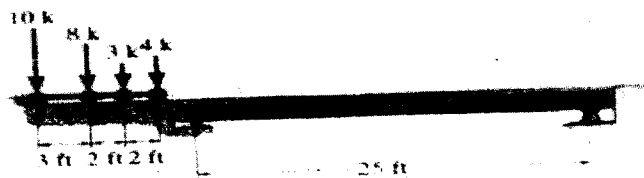
- Q.5.** Using the method of virtual work, determine the slope at B of the steel beam shown in figure below. Given $E = 200\text{GPa}$, $I = 70 \times 10^6 \text{ mm}^4$. (10)



UNIT-III

- Q.6.** Determine the absolute maximum live moment in the girder due to the loading shown in the figure below. (10)

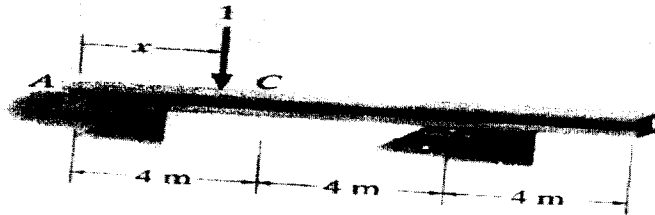
OR



- Q.7.** (a) State the Maxwell's reciprocal theorem with suitable diagram. (3)

- (b) What do you understand by the influence line diagram? How is it different from the shear force diagram? (3)

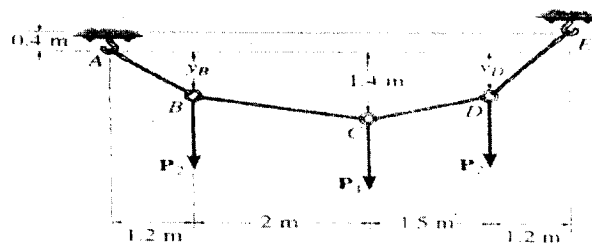
- (c) Construct the influence line diagram for the shear force at point C of the beam shown in figure below. Assume support at A is hinge and at B is roller. (4)



UNIT-IV

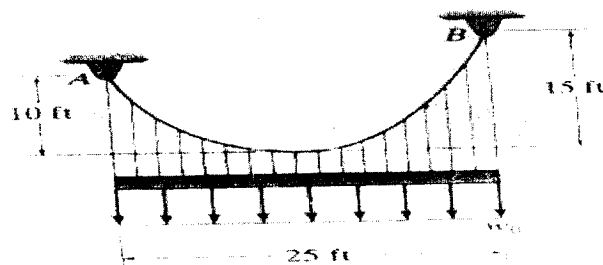
- Q.8. (a) What are the various nomenclature used to define the geometry of arch with an appropriate diagram. (5)

- (b) The cable supports the three loads as shown the figure below. Determine the sags y_B and y_D of points B and D. Take $P_1 = 4$ kN, $P_2 = 2.5$ kN. (5)



OR

- Q.9. Determine the maximum uniform load w_0 the cable can support if the maximum tension the cable can sustain is 4000 lb. (10)



B.Tech. (CE), 4th Sem
Soil Mechanics - 13010405
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 50

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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1.** Answer the following Questions. **(2X5=10)**
- a) Define quick sand condition?
 - b) What do you mean by sedimentation analysis?
 - c) Define percentage of air content and density index?
 - d) What do you mean by spring analogy?
 - e) Find relation between bulk unit weight, dry unit weight and water content?

UNIT-I

- Q.2.** Differentiate between standard proctor test and modify proctor test with neat sketches. **(10)**

OR

- Q.3.** Define USCS soil classification. A soil sample has porosity of 50%. The specific gravity of soil is 2.7 calculate a) Dry unit weight. b) Unit weight if soil 50% saturated. c) Void ratio d) Unit weight when soil 100% saturated. **(10)**

UNIT-II

- Q.4.** Define pressure bulbs. A concentrated point load of 200 kN acts at ground surface. Find the intensity of vertical pressure at a depth 10 metres below the ground surface and situated on the axis of loading. What will be the vertical pressure at a point at a depth of 5 metre and at a distance of 2m from the axis of loading. Using Boussinesq's theory **(10)**

OR

- Q.5.** State advantage and disadvantage of falling head test with respect to constant head test. **(10)**

UNIT-III

- Q.6.** A saturated clay layer of 5m thickness takes 1.5 years for 50% primary consolidation when drained on both side. Its coefficient of volume change is $1.5 \times 10^{-3} \text{ m}^2/\text{kN}$. Determine coefficient of consolidation and coefficient of permeability. Given $Y_w = 10 \text{ kN/m}^2$ **(10)**

OR

- Q.7.** What do you mean by shear strength? Classify methods for determination of shear strength. Explain **(10)**

UNIT-IV

- Q.8.** Briefly explain major soil deposits of India with their engineering characteristics. **(10)**

OR

- Q.9.** Define Mohr Circle of stress? Draw Mohr failure envelope for sandy soil and clayey soil. **(10)**

Roll No. _____

**B.Tech.(CE) – 4th SEMESTER
CONCRETE TECHNOLOGY -13010406
END TERM THEORY EXAMINATION**

Time: 03:00 Hrs

Max. Marks: 50

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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1. Answer the following Questions. (2X5)**
- a) What do you understand by batching? What are the various methods of batching?
 - b) Define creep.
 - c) Define corrosion
 - d) Define coefficient of uniformity.
 - e) Write short note on rapid hardening cement?

UNIT-I

- Q.2. Explain the manufacturing process of cement with appropriate diagram. (10)**
- OR**
- Q.3. (a) What do you understand by the consistency of cement? (5)**
(b) Explain initial and final setting time. (5)

UNIT-II

- Q.4. (a) Explain air entraining admixture with an example. (5)**
(b) What is plasticizer? (5)
- OR**
- Q.5. (a) What do you understand by characteristic strength of concrete? (5)**
(b) What are the functions of water in the preparation of concrete? (2)
(c) Write the name of any three different type of cement? (3)

UNIT-III

- Q.6. Explain the I.S. code method of mix design. (10)**
- OR**
- Q.7. (a) What are the various factors influencing the proportioning of mix? (5)**
(b) Define specific gravity of aggregate also explain the pycnometer method of determining the specific gravity. (5)

UNIT-IV

- Q.8.** (a) What is fiber reinforced concrete? (3)
(b) What is mass concrete? (3)
(c) What do you understand by quality control of concrete? (4)
- OR**
- Q.9.** (a) Write short note on polymer modify concrete? (5)
(b) What is ready mix concrete? (3)
(c) Why steel is good reinforcing material in concrete? (2)

*****ETE MAY 2018*****

B.TECH (CE) - 4TH SEM
(SUBJECT NAME & CODE: -ENGINEERING GEOLOGY -13010407)
END TERM THEORY EXAMINATION

Time: 3:00 Hrs**Max. Marks: 50****Instructions:**

1. Write Roll No. on the Question Paper.
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3. Attempt 5 Questions in all. Q. No. 1 is compulsory. Students are required to attempt other FOUR questions selecting one from each unit. Marks are indicated against each question.
4. Draw diagram wherever required.

- Q.1.** Answer the following Questions. (5×2 =10)
- a) Write the important minerals from feldspar groups.
 - b) Define the factors cause landslide.
 - c) What are the aerial photo interpretation elements.
 - d) Draw the internal structure of earth.
 - e) Ground water contamination.

UNIT-I

- Q.2.** Write briefly about the classification of rocks .Describe the origin, texture, structure and occurrence in earth surface. (10)

OR

- Q.3.** List the physical properties of minerals and describe each properties with examples. (10)

UNIT-II

- Q.4.** What are folds. Explain in detail classification of folds with neat sketches. (10)

OR

- Q.5.** Briefly explain geological factors affecting civil engineering construction. (10)

UNIT-III

- Q.6.** Write a note on soil weathering their types and effects of weathering on earth surface. (10)

OR

- Q.7.** Explain in details various natural disasters and their impact on environment and preventive measures. (10)

UNIT-IV

- Q.8.** Differentiate between confined aquifer and unconfined aquifers with neat sketches. (10)

OR

- Q.9.** Give an account of causes of inherent weakness in rocks. How rock qualities could be improved by artificial treatment. (10)

Roll No. _____

B. Tech (CE/CSE,/ME/ECE) 4th Semester
Foreign Language – II (German) - 13010416/13020403/13030416/13040413
END TERM THEORY EXAMINATION

Time: 03:00 Hrs

Max. Marks: 50

Instructions:

1. Write Roll No. on the Question Paper.
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3. Attempt all questions. Marks are indicated against each question.
4. Draw diagram wherever required.

Q.1. Write down the forms of conjugation (ie., ich , du, er/sie/es ,Sie ,wir and ihr) of the following verbs (ANY FIVE) (5X2=10)

- | | | |
|-----------|-----------|------------|
| a) müssen | e) essen | i) sehen |
| b) haben | f) wollen | j) möchten |
| c) wissen | g) dürfen | |
| d) nehmen | h) gehen | |

Q.2. Fill in the blanks using the verbs given in the braces (ANY TEN) (10X1=10)

- a) Ich ----- Wasser trinken. (möchten)
- b) Ich ----- eine Blume. (haben)
- c) David hat -----Hund. (ein/eine/einen)
- d) Er ----- Deutsch sprechen. (können)
- e) Es ist mir kalt. Ich ----- einen kaffee. (brauche/tanze/weiss)
- f) Sie ----- einen Computer. (haben)
- g) Ich hasse ----- . (dich/ich/er)
- h) Wir ----- Kaffee trinken. (möchten/tanzen/sagen)
- i) Ich ----- ein Buch. (lesen)
- j) Ich kenne ----- . (ihn/er/du)
- k) Ram ----- Hindi, Englisch und Deutsch. (sprechen)
- l) Wir ----- hier bleiben. (müssen)

Q.3. Write down about yourself in German. (10)

OR

Q.4. Write down about your Dream house in German.

Q.5. Translate the following sentences from English to German. (10X1=10)

- | | |
|----------------------|---------------------------|
| a) I am a Boy. | f) He comes from Germany. |
| b) He is a Student. | g) What is your Name ? |
| c) I have a Cat. | h) I drink Water. |
| d) I am 20 year old. | i) I know him. |
| e) I see a Dog | j) Good Night. |

P.T.O.

Q.6. Write down the plural form of the following words. (ANY TEN)

(10 X 0.5 = 5)

- a) die Blume
- b) das Auto
- c) das Haus
- d) der Freund

- e) der Paß
- f) der großvater
- g) die Großmutter
- h) der Sohn

- i) die Tochter
- j) der Vetter
- k) das Hotel
- l) der Baum

Q.7. Translate from German to English. (ANY FIVE)

(5X1=5)

- a) Rosa
- b) Schwarz
- c) Weiß
- d) Rot

- e) Grau
- f) Grün
- g) Gelb

*****ETE MAY 2018*****