KPK, UNIVERSITY OF ENGINEERING & TECHNOLOGY, PESHAWAR

DEPARTMENT OF CIVIL ENGINEERING

SEMESTER-1ST (2018/2019) FINAL TERM

COURSE: BSI101 (ISLAMIC STUDIES)

Marks: 25 Time: 02 Hours

Note: Attempt all the questions. نوٹ: تمام سوالات حل کریں۔

(5) سوال نمبر1: مندرجہ ذیل قرآنی آیت کا ترجمہ اور مختصر تشریح کریں۔

Translate the following Quranic verse in Urdu/English with a short commentary. (CLO1)

يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَرْفَعُوا أَصْوَاتَكُمْ فَوْقَ صَوْتِ النَّبِيِّ وَلَا تَجْهَرُوا لَهُ بِالْقَوْلِ كَجَهْرِ بَعْضِكُمْ لِبَعْضٍ

(5) سوال نمبر2: مندرجہ ذیل احادیث نبوی کا ترجمہ وتشریح کریں۔

Translate the following Hadith in Urdu/English with a short commentary. (CLO1)

ان رسول اللهِ صلى الله عليه وسلمَ قَالَ من كان يؤمن بالله وَالْيَوْمِ الآخِرِ فَلْيُكْرِمْ جَارَهُ ، وَمَنْ كَانَ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الآخِرِ فَلْيُكْرِمْ ضَيْفَهُ

(5) سوال نمبر3: میثاقِ مدینہ پر نوٹ لکھیں۔

Write a short note on Misaq_e_Madina. (CLO1)

(5) سوال نمبر4: خطبۂ عرفات کے اہم نکات بیان کریں۔

Describe the important points of Arafat address. (CLO1)

(5) سوال نمبر5: "جنگ بدر ایک دفاعی جنگ تھی" جائزہ لیں۔

"The Battle of Badr was a defensive war" Give an analysis. (CLO1)

UNIVERSITY OF ENGINEERING AND TECHNOLOGY PESHAWAR

DEPARTENT OF CIVIL ENGINEERING MAIN CAMPUS

Final Term Exam Fall -2018

1st Semester BSI-110 Pakistan Studies

Time allowed: 02 hours Max Marks: 100

(Note: Attempt all questions.)

Q.1: Summarize the importance of objective resolution (1949). (CLO3, PLO6) (25

قرارداد مقاصد - اہمیت - تفصیل بیان کریں

Q.2: Describe the importance of 18th and 19th Amendment in the constitute of 1973.

18th اور 19th ترمیم کی تفصیل کیا ہے بیان کریں۔ (CLO3, PLO6) (25)

Q.3: Explain the assassination of Liaqat Ali Khan, knowing the causes and the dissolution of the Cabinet of Khwaja Nazimuddin in 1953. (CLO4, PLO6) (25)

وزیراعظم لیاقت علی خان، شہادت - وجوہات، خواجہ ناظم الدین کے حکومت کی تحلیل بیان کریں

Q.4: Identify the objective of foreign policy of Pakistan, also explain the recent initiatives taken by PM Imran Khan and other institutions of Pakistan. (CLO4, PLO6) (25)

خارجی پالیسی کے مقاصد - وزیراعظم عمران خان کے موجودہ کوششوں کو خارجی پالیسی مقاصد کے حوالے سے بیان کریں

GOOD LUCK

University of Engineering and Technology, Peshawar Pakistan
Department of Civil Engineering
Final Term Examination, 1st Semester, Fall Semester 2018
CE117: Engineering Mechanics

Time Allowed: 02 Hours **Total Marks: 100**

Note: Attempt all questions. No reference material is allowed. Use of mobile phone is strictly prohibited in examination hall.

Question No.1 **(12+12)**

a) The ball *D* has a mass of 20 kg. If a force of F= 100 N is applied horizontally to the ring at *A*, **determine** the dimension *d* so that the force in cable *AC* is zero.**(figure 1)**

b) **Compare** the force exerted on the toe and heel of 120 lbs woman when she is wearing regular shoes and stiletto heels. Assume all her weight is placed on one foot and the reaction occur at points A and B as shown in **figure 2**.

Question No.2 **(14+14)**

a) A skeletal diagram of a hand holding a load is shown in the **figure 3** (upper one). If the load and the forearm have masses of 2 kg and 1.2 kg, respectively, and their centers of mass are located at G_1 and G, **determine** the force developed in the biceps *CD* and the horizontal and vertical components of reaction at the elbow joint *B*. The forearm supporting system can be modeled as the structural system shown in the **figure 3** (lower one).

b) As an airplane's brakes are applied, the nose wheel exerts two forces on the end of the landing gear as shown in **figure 4**. **Determine** the horizontal and vertical components of reaction at the pin *C* and the force in strut *AB*.

Question No. 3 **(12+12)**

a) **Determine** the force in each member of the truss shown in **figure 5** and state if the members are in tension or compression. Set P1 = 240 lb, P2 = 100 lb.

b) **Determine** the internal normal force, shear force, and the bending moment in the beam shown in **figure 6** at points *C* and *D*. Assume the support at *B* is a roller. Point *C* is located just to the right of the 8-kip load.

Question No. 4 **(12+12)**

a) The drum has a weight of 100 lb and rests on the floor for which the coefficient of static friction is μ_s=0.6. If a=2 ft and b=3ft, **determine** the smallest magnitude of the force *P* that will cause impending tipping of the drum. Also apply check for sliding of the drum for this value of P. **(figure 7)**

b) **Locate** the centroid $(\bar{x}, \bar{y})$ of the composite area shown in **figure 8**.

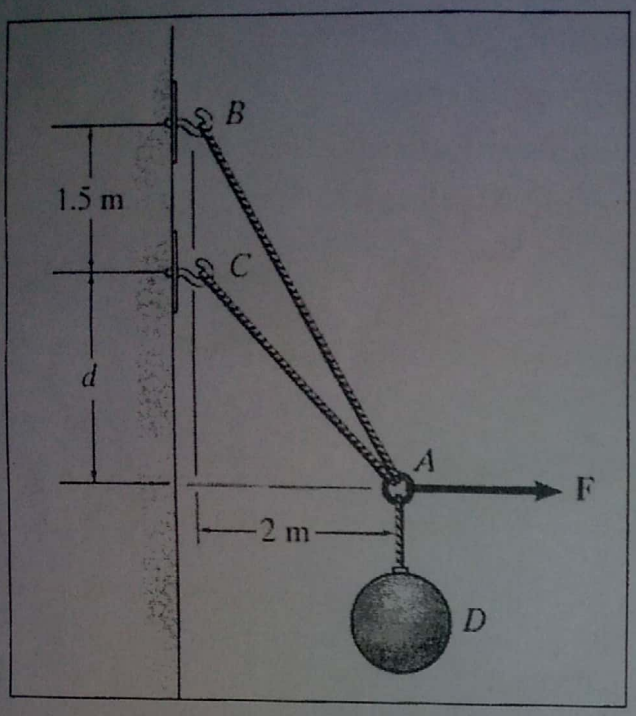


Figure 1

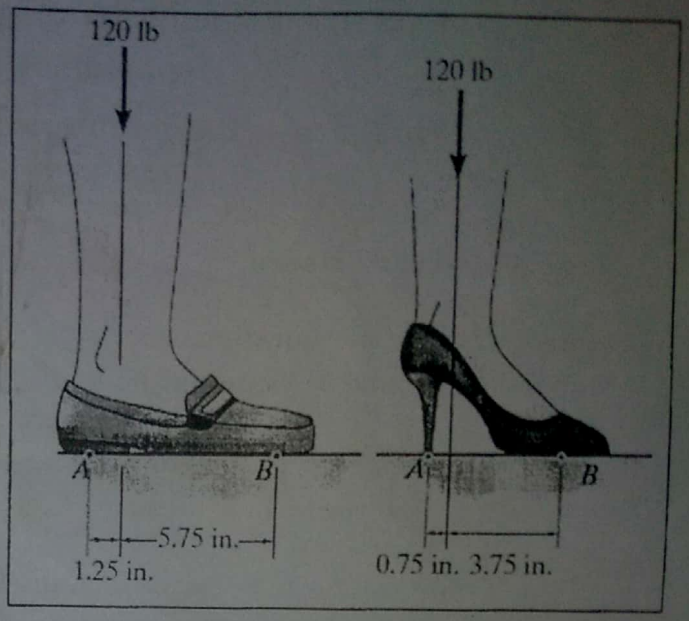


Figure 2

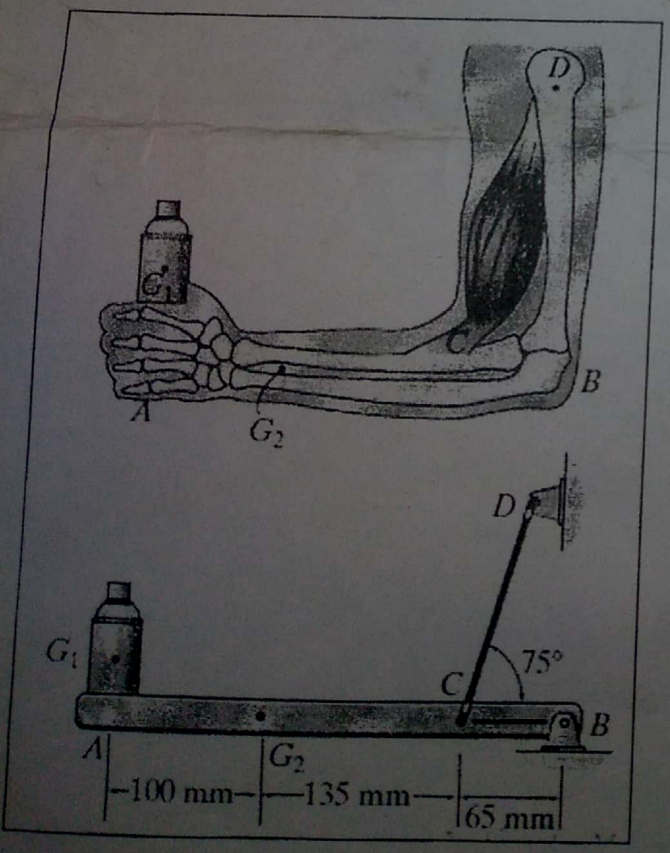


Figure 3

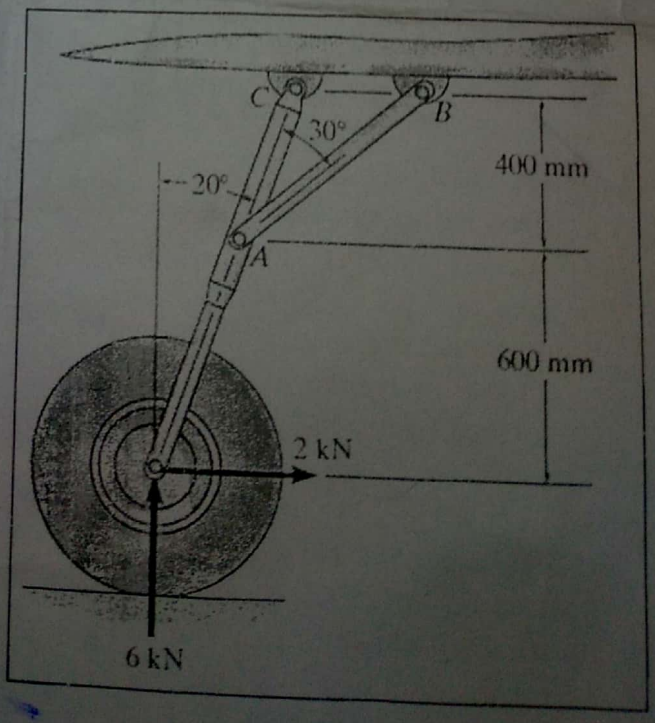


Figure 4

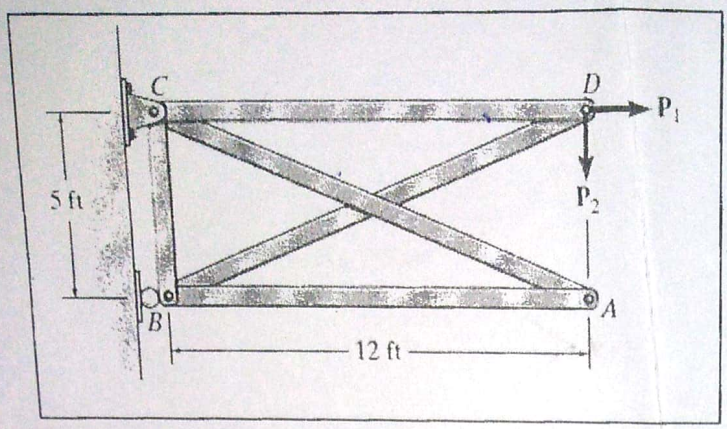


Figure 5

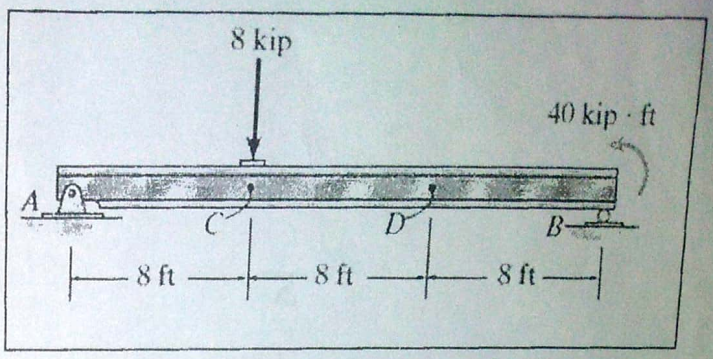


Figure 6

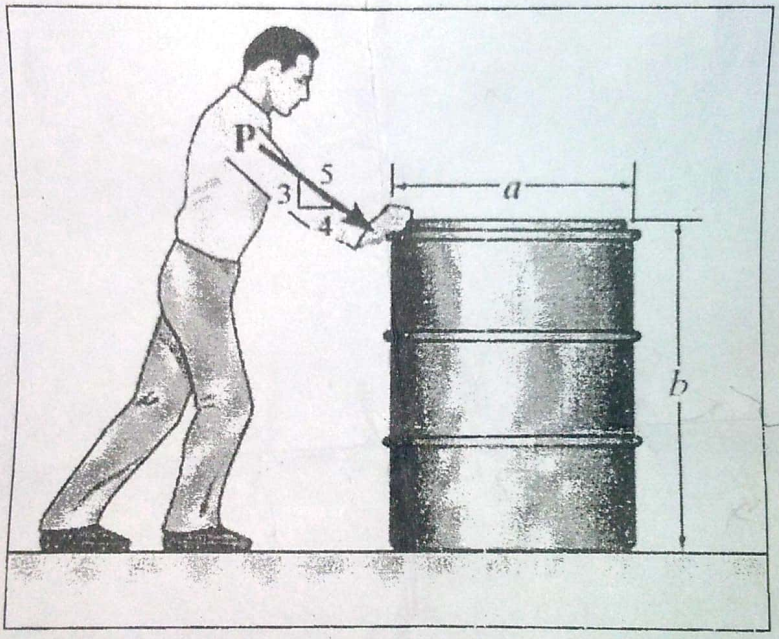


Figure 7

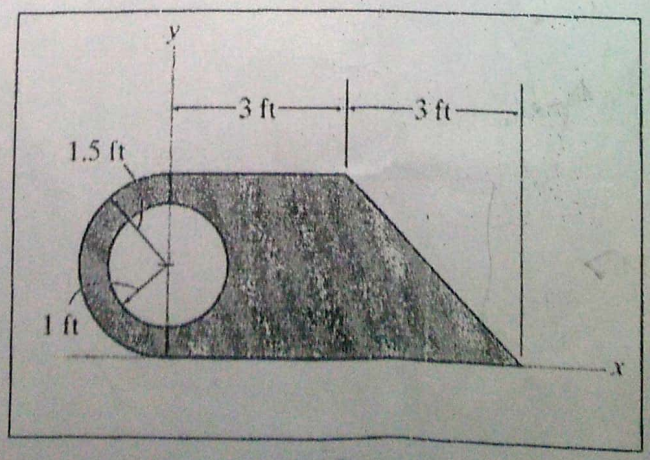


Figure 8

University of Engineering & Technology, Peshawar

Department of Civil Engineering

BSI-110, Pakistan Studies

1st Semester, Mid Term Examination Fall 2018

Time allowed 2 hours (30 minutes for each question) **Total marks = 100**

Note: Attempt all questions.

Question No 1. Pick the meaning of ideology, and list the name of ideologies prevailing in the world. {CLO 01, C-1, PLO 06} (25)

Question No 2. Recall the objectives of getting Pakistan critically.

{CLO 01, C-1, PLO 06} (25)

Question No 3. Summarize the contribution of sheikh Ahmad sirhindi and Shah Wali Ullah as a great reformists in Sub continent. {CLO 02, C-5, PLO 06} (25)

Question No 4. Explain all India Muslim League (1906), Lucknow Pact 1916 and Nehro report 1928. {CLO 02, C-5, PLO 06} (25)

UNIVERSITY OF ENGINEERING & TECHNOLOGY, PESH
DEPARTMENT OF CIVIL ENGINEERING
MID TERM EXAMINATION
(Fall-2018)
BSI-141 English Comp. & Comm. Skills

Time allowed: 2:00 Hrs **Maximum Marks: 25**

(Note: Attempt all Questions.)

Q1: In many cases written communication is a preferred method of communication. Describe the **uses** and benefits of "Seven C's" in written communication with example.

(CLO1, PLO 10) (7)

Q2: Compare and contrast verbal and non-verbal communication and give reasons for your favorite medium to **practice** in communication?

(CLO2, PLO 10) (5)

Q3: Consider yourself as a chairman of Civil Engineering Department. **Prepare** a memorandum "informing all the employees about change in the venue of forthcoming seminar"

(CLO3, PLO 10) (7)

Q4: List the **uses** and differences between the following with examples.

-Denotive words and Connotative words.

-Encoding and Decoding.

-Downward and Upward communication.

(CLO1, PLO 10) (6)

University of Engineering and Technology, Peshawar Pakistan
Department of Civil Engineering
Final Term Examination, 1st Semester, Fall Semester 2018
CE117: Engineering Mechanics

Time Allowed: 02 Hours **Total Marks: 100**

Note: Attempt all questions. No reference material is allowed. Use of mobile phone is strictly prohibited in examination hall.

Question No.1

a) **Identify** different effects of the force applied at point A in given figure 1.**State** your answer clearly differentiating engineering mechanics study from mechanics of solids. (CLO1, C1, PLO 1) (6)

b) **Name** different types of coplanar force systems. (CLO1, C1, PLO1) (3)

c) **Illustrate** Varignon's theorem by a sample problem shown in figure 2. Take point O as moment center. (CLO2, C2, PLO1) (9)

Question No.2 (CLO3, C3, PLO1)

a) A 30-lb force acts on the body shown in figure 3. **Compute** *the magnitude of its components along the u and v axes.* (12)

b) If the magnitude of the resultant force acting on the bracket shown in figure 4 is to be 80 lbs directed along the *u* axis, **determine** the magnitude of **F** and its direction θ. (14)

Question No. 3 (CLO3, C3, PLO1)

a) In Figure 5, **find** the y co-ordinate of point A so that the 361-lb force will have a clockwise moment of 400 ft-lb about O. Also **determine** the X and Y intercept of the action line of the force. (14)

b) **Show** an equivalent effect of force system given in figure 6 at point *O*. Take **F**= 20 pounds. (14)

Question No. 4

a) A vertical force P at A and another vertical force F at B in Figure 7 produces a resultant of 100 lbs down at D and a counter clockwise couple C of 200 lb-ft. **Find** the magnitude and direction of force P and F. (14)

(CLO 3, C3, PLO1)

b) The Howe truss shown in figure 8 carries the given loads. The wind loads are perpendicular to the inclined members. **Determine** the magnitude of resultant, its inclination with the horizontal and where it intersects AB? (14)

(CLO3, C3, PLO1)

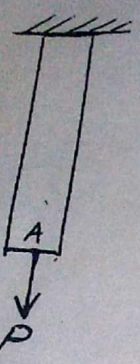


Figure 1

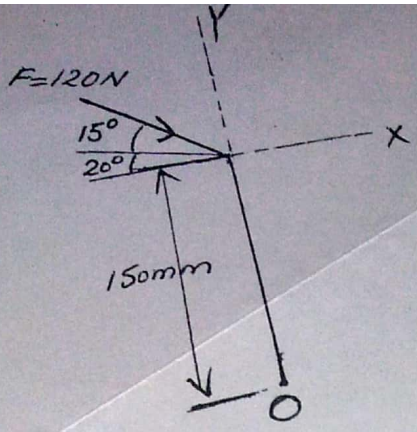


Figure 2

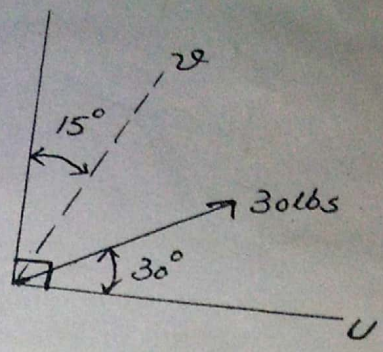


Figure 3

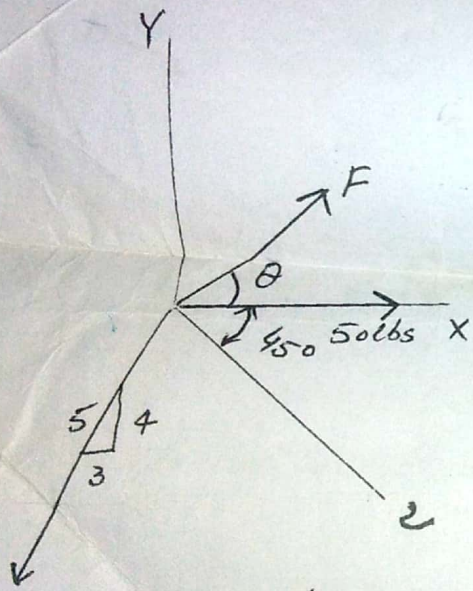


Figure 4

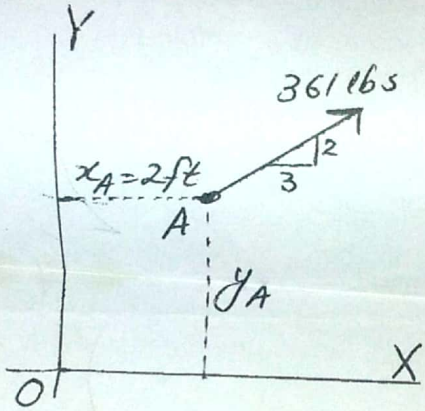


Figure 5

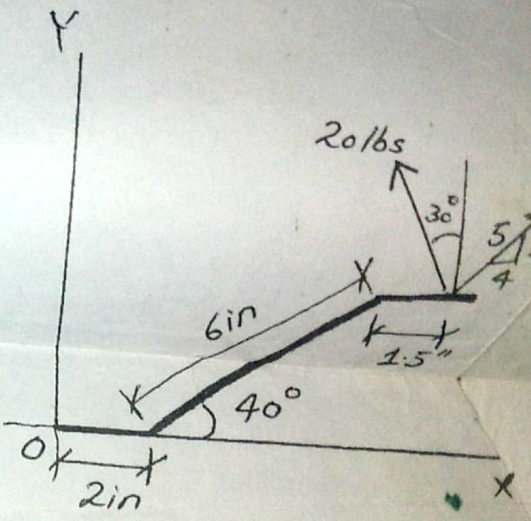


Figure 6

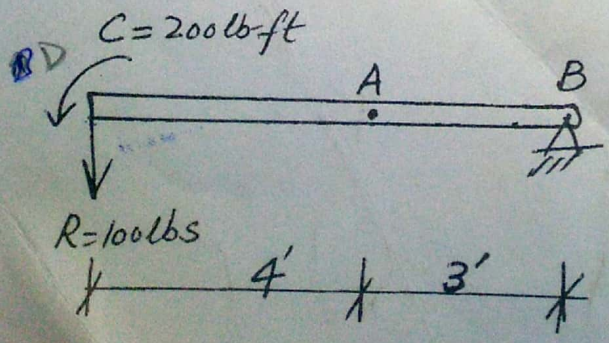
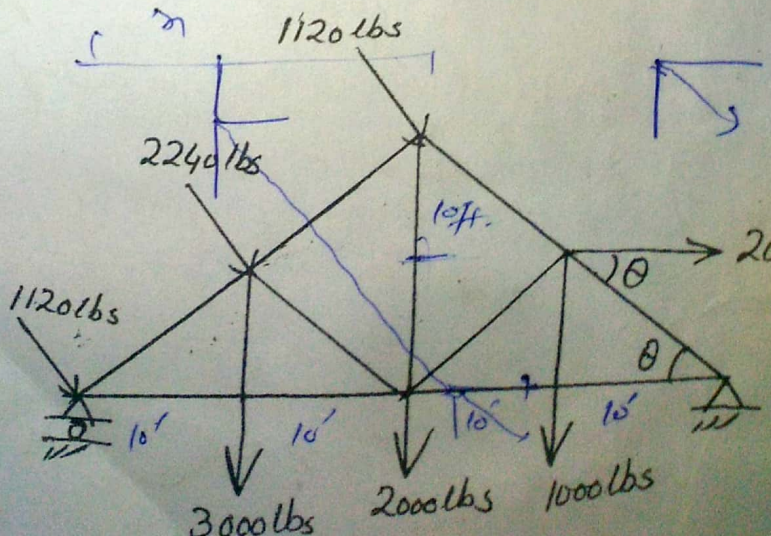


Figure-7



KPK, UNIVERSITY OF ENGINEERING & TECHNOLOGY, PESHAWAR
DEPARTMENT OF CIVIL ENGINEERING
Semester- 1st (2018/19)
COURSE: BSI101 (ISLAMIC STUDIES)

Marks: 25 Time: 02 Hours

نوٹ: تمام سوالات حل کریں۔

Note: Attempt all the questions.

سوال نمبر1: مندرجہ ذیل قرآنی آیت اور حدیث کا ترجمہ اور مختصر تشریح کریں۔ (10)

Q No1: Translate the following Quranic Verse & Hadith along with a short commentary. (10)
(CLO1)

(الف) لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ رَبَّنَا لَا تُؤَاخِذْنَا إِن نَّسِينَا أَوْ أَخْطَأْنَا

(ب) بُنِيَ الإِسْلَامُ عَلَى خَمْسٍ: شَهَادَةِ أَنْ لَا إِلَهَ إِلَّا اللَّهُ وَأَنَّ مُحَمَّدًا رَسُولُ اللَّهِ، وَإِقَامِ الصَّلَاةِ، وَإِيتَاءِ الزَّكَاةِ، وَالحَجِّ، وَصَوْمِ رَمَضَانَ

سوال نمبر2: قرآن کریم کی پہلی کتابت اور اس کی جمع و تدوین پر نوٹ لکھیں؟ (05)

Q No.2 Write a note on the first writing & Compilation of the Holy Quran? (CLO1) (05)

سوال نمبر3: شعب ابی طالب کے واقعات کو واضح کریں؟ (05)

Q No3: Give briefing about the events of Shaab-e-Abi Talib? (CLO1) (05)

سوال نمبر4: حدیث سے کیا مراد ہے؟ حدیث کی اقسام اور مشہور کتابوں کے بارے میں نوٹ لکھیں؟ (05)

Q No.4 What is meant by Hadith? Write a note on the kinds & famous books of Hadith? (05)
(CLO1)

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DEPARTMENT Of BASIC SCIENCES AND ISLAMIAT

University of Engineering and Technology, Peshawar

PAPER: Linear Algebra (BSI-111)

Final-Term Examination 1st semester,Fall-2018

(Civil Engineering Mian Campus)

Time Allowed: 2 hours

Max Marks: 50

Note: Attempt all questions:

Q1 Use the substitution scheme and the matrix $A=\begin{bmatrix}1 & 2 & 3\\ 1 & 1 & 2\\ 0 & 1 & 2\end{bmatrix}$ with inverse matrix

$$A^{-1}=\begin{bmatrix}0 & 1 & -1\\ 2 & -2 & -1\\ -1 & 1 & 1\end{bmatrix}.$$

(a) Code the message SEND HIM MONEY. 6)

(b) Decode the message 67 44 41 49 39 19 113 76 62 104 69 55 6)

Q2. (a) Find a plane that passes through the point $(2,4,-3)$ and is parallel to the plane $-2x+4y-5z+6=0.$ 6)

(b) Identify whether the following subset of R^4 is a subspace of R^4 6)

The set of all vectors of the form $(a,b,c,d),\ where\ c=a+2b, d=a-3b.$

Q3. (a) Define (i) linearly dependent and linearly independent vectors in a vector space

(ii) Basis and Dimension for a vector space 4)

(b) Find a basis and dimension of the subspace W of P_2, consisting of all polynomials of the form at^2+bt+c, where $c=a-b.$ 8)

Q4. (a) Determine the eigenvalues, eigenvectors and dimension of eigenspace associated with smallest eigenvalue of the matrix

$$A=\begin{bmatrix}2 & -2 & 3\\ 0 & 3 & -2\\ 0 & -1 & 2\end{bmatrix}$$ 8)

(b) Compute, if possible, a nonsingular matrix P such that $P^{-1}AP$ is diagonal, where

$$A=\begin{bmatrix}0 & -1\\ 2 & 3\end{bmatrix}.$$ 6)

DEPARTMENT OF BASIC SCIENCES AND ISLAMIAT

University of Engineering and Technology, Peshawar

PAPER: Linear Algebra (BSI-111)

Mid -Term Examination Fall-2018

(1st semester Civil Engineering Main Campus)

Time Allowed: 2 hours **Max Marks: 25**

Note: Attempt all questions:

Q1. a) An oil refinery produces low-sulfur and high-sulfur fuel. Each ton of low-sulfur fuel requires 5 minutes in the blending plant and 4 minutes in the refining plant, each ton of high-sulfur fuel requires 4 minutes in the blending plant and 2 minutes in the in the refining plant. If the blending plant is available for 3 hours and the refining plant is available for 2 hours, how many tons of each type of fuel should be manufactured so that the plants are fully utilized? (4)

b) Describe the geometry of the matrix transformation $f: R^2 \to R^2$ defined by $f(u) = Au$ for the given matrix in each of the following parts.

(i) $A = \begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$ (ii) $A = \begin{bmatrix} 0 & -1 \\ -1 & 0 \end{bmatrix}$. (2)

Q2 .a) Let $A = \begin{bmatrix} 2 & 3 \\ -1 & 4 \\ 0 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & -1 & 3 \\ 1 & 2 & 4 \end{bmatrix}$. Find the matrix product AB by (3) expressing the columns of AB as the linear combinations of the columns of A.

b) Construct a linear system of equations to determine a quadratic polynomial $P(x) = ax^2 + bx + c$ that satisfies the conditions

$P(1) = f(1), P'(1) = f'(1)$ *and* $P''(1) = f''(1)$ *where* $f(x) = xe^{x-1}$ $(3\frac{1}{2})$

Q3. a) Construct the LU-factorization of the co-efficient matrix of the given linear system AX=b. Solve the linear system using a forward substitution followed by a back substitution.

$$A = \begin{bmatrix} 2 & 8 & 0 \\ 2 & 2 & -3 \\ 1 & 2 & 7 \end{bmatrix}, b = \begin{bmatrix} 18 \\ 3 \\ 12 \end{bmatrix},$$ $(3\frac{1}{2})$

P.T.O

b) Let f_1 be reflection with respect to the $y-$axis and let f_2 be counter clockwise rotation through $\frac{\pi}{2}$ radians. Show that the result of first performing f_1 and then f_2 is not the same as first performing f_2 and then performing f_1 (3)

Q4. a) Define the following terms.

(i) Probability vector (ii) Regular Markov process (2)

b) A study has determined that the occupation of a boy as an adult, depends upon the occupation of his father and is given by the following transition matrix (Markov Matrix), where P = professional, F = farmer, and L = laborer

Father's occupation

$$\begin{matrix} \\ Son's \\ occupation \end{matrix} \begin{bmatrix} 0.8 & 0.3 & 0.2 \\ 0.1 & 0.5 & 0.2 \\ 0.1 & 0.2 & 0.6 \end{bmatrix} \quad (4)$$

Thus the probability that son of a professional will also be a professional is 0.8 and so on.

i) What is probability that the grandchild of a professional will also be a professional?

ii) In the long run, what proportions of the population will farmers?