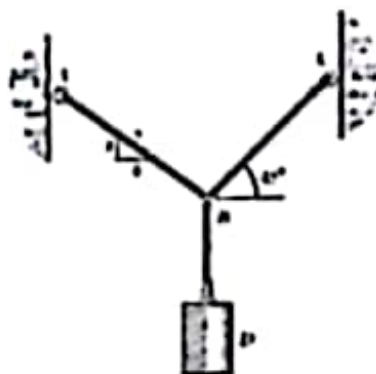




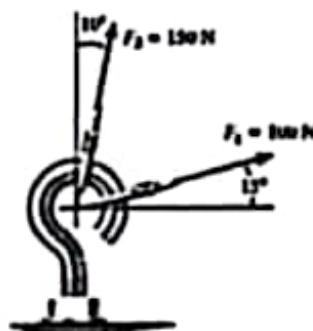
Q. 01 Define the term 'force', and state clearly the effects of force also *CLO-1*  
mention characteristics of a force.

Q. 02 (a) Discuss the various types of equilibrium. *CLO-1*

(b) Determine the tension in cables BA and BC necessary to support the *CLO-2*  
60kG cylinder show in figure.



Q. 03 The screw eye in figure is subjected to two forces,  $F_1$  and  $F_2$ . *CLO-2*  
Determine the magnitude and direction of the resultant force.



The End



**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH**

**MID-SEMESTER EXAMINATION OF FIRST SEMESTER - FIRST YEAR (1<sup>ST</sup> SEMESTER) 2021, 20 BATCH, B.E (ME)**

**SUBJECT: FUNCTIONAL ENGLISH**

**Dated: 05.03.2021**

**Maximum Marks: 20**

**Time Allowed: 1 Hour**

**NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

**Q. 01 (a) Write a paragraph on any topic?**

**(b) Mention and define all key features in 5 steps.**

**Q. 02 Identify each type of the sentence and explain your answer, also indicate the punctuation mark at the end of sentence**

- 1. How thrilled Juliet was to become a queen**
- 2. Where did she get so many flowers**
- 3. Children should not go near the animals at the zoo**
- 4. Come home immediately after school**
- 5. Don't answer the first five questions**
- 6. It was a large fire, but it was finally put out**
- 7. How many houses were burned**
- 8. What a miserable sight the homeless families presented**
- 9. I'm very glad to see you**
- 10. Let's cheer for the winner**

**Q. 03 Define and discuss in detail the usage of articles with examples.**

**The End**



**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH**

**MID-SEMESTER EXAMINATION OF FIRST SEMESTER – FIRST YEAR (1<sup>ST</sup> SEMESTER) 20-BATCH, BE (ME)**

**SUBJECT: PAKISTAN STUDIES**

**Dated: 07.03.2021**

**Maximum Marks: 10**

**Time Allowed: 45 Minutes**

**NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

- Q.01 What were the reasons for partition of Bengal and creation of All India Muslim League?
- Q.02 Why Khilafat Movement started and failed? Describe impact of Khilafat Movement on Muslims.
- Q.03 What is main contribution of Sir Syed Ahmed Khan for Muslims in Sub-continent?

**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH**

**MID-SEMESTER EXAMINATION OF FIRST SEMESTER – FIRST YEAR (1<sup>ST</sup> SEMESTER) 2021, 20-BATCH, BE (ME)**

**SUBJECT: ENGINEERING MATERIALS**

**Dated: 08.03.2021**

**Maximum Marks: 20**

**Time Allowed: 1 Hour**

**NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

	Questions	Marks	CLO
1	(a) Define metal and mention the important uses of metal.	05	1
1	(b) Describe briefly, with the aid of sketches, the manufacturing process of wrought iron.	05	
2	Discuss the refining of copper and also explain the properties of Brass and Bronze	10	1
3	Write short notes on two of the following 1. Miller indices with three examples 2. Space lattice and types 3. Dislocations and its classifications	10	1

**The End**

**NOTE: ATTEMPT ANY TWO QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS**

Q. No.	QUESTIONS	CLO	Taxonomy Level	M
01	(a) Define a complex number. Evaluate $\left(\frac{\sqrt{3}-i}{\sqrt{3}+i}\right)^4$ (b) State and prove De Moivre's Theorem	CLO-1	C2	
02	(a) Simplify the following (i) $\frac{(\cos 2\theta + i \sin 2\theta)^4 (\cos 3\theta - i \sin 3\theta)^4}{(\cos 4\theta - i \sin 4\theta)^4 (\cos 5\theta + i \sin 5\theta)^4}$ (ii) $\frac{(3 \operatorname{cis} \frac{\pi}{6})^7}{(4 \operatorname{cis} \frac{\pi}{3})^4}$ (b) What do you know about vector space and a field? Explain with suitable examples.	CLO-1  CLO-2	C2	
03	(a) Define the following matrices and give their examples. (i) Symmetric matrix (ii) Nilpotent matrix (iii) Skew Hermitian matrix (b) Reduce the matrix $C = \begin{bmatrix} 6 & 3 & -4 \\ -4 & 1 & -6 \\ 1 & 2 & -5 \end{bmatrix}$ to echelon form.	CLO-1	C2	

*"Mathematics is a way to settle in the mind a habit of reasoning" (Locke)*



**SUBJECT: ENGINEERING MATERIALS****Dated: 16.08.2021****Maximum Marks: 60****Time Allowed: 3 Hours****NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

<b>Q#</b>	<b>Questions</b>	<b>Marks</b>	<b>CLC</b>
Q.1 (a)	Describe open-hearth process of steel making with neat sketch.	06	1
Q.1 (b)	Explain deformation and its classification.	06	
Q.2 (a)	Define annealing and normalizing heat treatment processes.	06	1
Q.2 (b)	Draw the carbon iron equilibrium diagram.	06	1
Q.3 (a)	What is meant by Mechanical working of metals? Define recrystallization temperature.	06	1
Q.3 (b)	Elaborate any three hot working processes.	06	1
Q.4 (a)	Show the chemical structure of monomer and polymer. Write about the plastic molding processes.	06	1
Q.4 (b)	Write shortly about the composite materials and also define its types.	06	1
Q.NO.05	Write notes on any two of the following. 01. Glass 02. Advanced ceramics 03. Refractory materials	12	1

**Best of Luck**



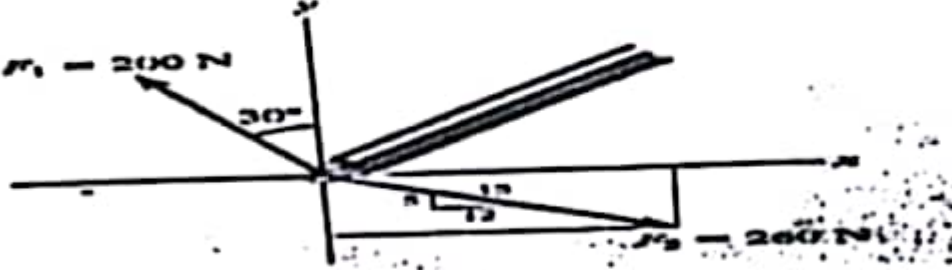


Dated: 03.08.2021

Maximum Marks: 30

Time Allowed: 2 hours

NOTE: ATTEMPT ALL QUESTIONS CARRY EQUAL MARKS.

Q#	Question	Marks	CLO
Q.01(a)	Define the term 'force', and state clearly the effects of force also mention characteristics of a force. What is free body diagram.	05	1
Q.01(b)	The screw eye in fig:01 is subjected to two forces, $F_1$ and $F_2$ . Determine the magnitude and direction of the resultant force. 	05	2
Q. 02	Determine the required length of AC in fig 2 so that the 8kg lamp is suspended in the position shown. The undeformed length of spring AB is $L_{AB}=0.4m$ and the spring has a stiffness of $k_{AB}=300N/m$ . 	10	2
Q.03(a)	Discuss the various types of equilibrium	05	1
Q.03(b)	Determine the X and Y component of $F_1$ and $F_2$ acting on the boom shown in fig:03. express each force as Cartesian vector 	05	2

Good Luck



Q.	QUESTION	CLO	Taxonomy Level
Q. 01	(a) Define limit and continuity of a function.	C2	2
	(b) Evaluate each of the following limits at least one by L'Hospital rule. i. $\lim_{x \rightarrow 0} \frac{\cos 6x - \cos x}{x}$ ii. $\lim_{x \rightarrow 0} \frac{\sin^3 x}{\cos 3x + 1}$	C3	3
	(c) Check the continuity of function $f(x) = \begin{cases} \frac{x- x }{x}, & \text{if } x \neq 0 \\ 2, & \text{if } x = 0 \end{cases}$ at $x = 0$	C3	3
Q. 02	(a) Define the derivative of function and give its geometrical and physical interpretation.	C2	2
	(b) Differentiate $\arctan\left(\frac{2x}{1-x^2}\right)$ with respect to $\arcsin\left(\frac{2x}{1+x^2}\right)$ .	C2	2
	(c) The heights (in feet) of a rocket $t$ seconds after its launching is given by $S(t) = -2t^3 + 114t^2 - 480t + 1$ , $t \geq 0$ , find (i) the velocity of the rocket at $t = 0$ and velocity of 15 seconds, (ii) the maximum height reached by the rocket.	C2	2
Q. 03	(a) Define the tangent and normal equations of the curve.	C2	2
	(b) Find the value of $c$ (if exist) for the function $f(x) = \sin^2 x$ on $[0, \pi]$ by Rolle's theorem.	C3	3
	(c) A topless rectangular box has a volume of $256\text{cm}^3$ . Find the dimensions of the box so as to use the least amount of material.	C3	3
Q. 04	(a) Define the definite and improper integral.	C2	2
	(b) Using properties of definite integral to evaluate $\int_0^{\pi/4} \ln(1 + \tan x) dx$	C3	3
	(c) If $u = \sin^{-1}\left(\frac{x^2 + y^2}{x + y}\right)$ then show that $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = \tan u$ by the application of Euler's theorem.	C3	3
Q. 05	(a) Define gradient, curl and divergence.	C2	2
	(b) Derive the reduction formula for $\int \sin^n x dx$ .	C3	3
	(c) If $u = x^2 + y^2 + z^2$ then find $\nabla u$ at $(1, 2, -1)$ .	C3	3





SUBJECT: FUNCTIONAL ENGLISH

Date: 30.08.2021

Maximum Marks: 60

Time Allowed: 3 Hours

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

- Q. 01 Write an essay from any given topics; also give the overview on the structure of your essay by creating diagram specifically. (100 to 150 words) 12  
/ i. Why I pursue Mechanical Engineering  
ii. Heart treatment  
iii. Hard Work and success  
iv. Lahore Resolution
- Q. 02 (a) How punctuation marks are helpful in your writing? Define in detail and also mention atleast nine punctuation marks. 06  
(b) What is difference between period and comma, discuss any 5 different uses of comma along with 2 examples on each usage. 06
- Q. 03 Choose the correct answer: 12  
The picture hangs (above/beneath/in) my bed.  
The girl (in/on/at) the book.  
I have been (wait/waiting/wanting) for you (since/for/on) 10' clock.  
The thief (stolen/steal/steel) your phone.  
He worked really hard, but he is only good (at/in/of) English.  
It was really cold outside, let me turn (off/on) the fan.  
She held umbrella (over/on/for) both of us.  
My days have a break (at/in/on) 10 a.m (at/in/on) Friday.  
My family (is/am/do) always precious.
- Q. 04 Write the precise of given passage: 12  
A life of action and danger moderates the dread of death. It not only gives us fortitude to bear pain, but teaches us at every step the precarious tenure on which we hold our present being. Sedentary and studious men are the most apprehensive on this score. Dr. Johnson was an instance in point. A few years seemed to him soon over, compared with those sweeping contemplations on time and infinity with which he had been used to pose himself. In the still life of a man of letters there was no obvious reason for a change. He might sit in an arm chair and pour out cups of tea to all eternity would it had been possible for him to do so. The most rational cure after all for the inordinate fear of death is to set a just value on life. If we mere wish to continue on the scene to indulge our head-strong humour and tormenting passions, we had better be gone at once; and if we only cherish a fondness for existence according to the good we desire from it, the pang we feel at parting which it will not be very server.
- Q. 05 (a) What is difference between formal and informal letter writing? 03  
(b) Write a letter to the head of department, request to organize a seminar on internships program. 09

Good Luck





**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH**

**FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER - FIRST YEAR, 2021 OF 20 BATCH B.E (ME/CH)/B.**

**SUBJECT: PAKISTAN STUDIES**

**Dated: 27.08.2021**

**Maximum Marks: 30**

**Time Allowed: 02**

**NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

**Q. 01** What were the main difficulties faced by Pakistan at the time of its creation?

**Q. 02** What was the constitutional meaning of the Lahore 1940 Resolution?

**Q. 03** East Pakistan arrogance created problems for West Pakistan. Explain.