Daffodil International University

Faculty of Science and Information Technology
Department of CSE
Midterm Examination: Spring 2020 (Day)
Course Code: ENG 113
Course Title: Basic Functional English and English Spoken
Course Teacher: Fahima Tasnim (FT)

Time: 1 Hour **Full Marks: 25**

Part A:

Reading

Read the passage carefully and answer the questions 1-2:

Mount Everest which is in the Himalayan Mountains north of India between Tibet and Nepal, is the highest mountain in the world. It is over 29000 feet above sea level. It was named after an Englishman George Everest who was the first to survey the Himalayas in 1841.

Mount Everest has always fascinated climbers. But climbing mountains like the Everest is difficult and dangerous for there is snow all over. There might be snow sliders and cracks under the ice and snow. Besides, the climbers have to face strong winds and bitter cold. But mountaineers are daring people. They are not daunted by difficulties and dangers. Mountains always look exciting and challenging to them and they feel that they must go and climb them.

Many expeditions had been led to conquer Mount Everest. Some of them had to be abandoned. Many climbers who took part in them lost their lives. Sir Edmund Hillary from New Zealand and his companion Tenzing Norkay from Nepal led an expedition in 1953. The expedition set out on March 10. As the climbers were going up, they set up camps at different place. They left some of their men and supplies in those camps.

The highest camp was set up at 27000 feet. Only Hillary and Tenzing reached that height. But the top was till 2000 feet away. They went up and up. After two months of difficult and dangerous climbing, they succeeded in reaching the top on May 10. They must have felt excited when they stood there. They have gone down in history as the conquerors of the highest mountain in the world.

1) Choose the best answer from the alternatives. **.5x4=2**

a) Hillary and Tenzing climbed----------.
i) 27000 feet ii) 25000 feet iii) 29000 feet iv) 2000feet

b) Hillary and Tenzing set up their last camp at----------.
i) 27000 feet ii) 25000 feet iii) 29000 feet iv) 2000 feet

c) Hillary hails form----------.
i) Nepal ii) New Zealand iii) England iv) India

d) George Everest hails from----------.
i) Nepal ii) New Zealand iii) England iv) India

2) Give short answers to these questions. **1x2=2**

a) How does Mount Everest appear to climbers?
b) Why is mountaineering difficult and dangerous?

Grammar

1. Fill in the gaps using correct form of the verbs: **.5x6=3**

a) Fifty years (be) long time.
b) I (to oppose) the situation if I could.
c) I will do the work after I (to talk) to you.
d) As soon as the thief (see) the RAB, he (run) away.
e) Bread and butter (be) my favorite.
f) Everyone (wish) to be happy.

2. Fill in the gaps with article. **3**

1. (a)..... teacher is often compared with (b)..... architect. He is called (c)..... architect of a nation. He is (d)..... light of learning and makes the illiterate people worthy citizens of our country. But it is (e)..... matter of regret that (f)..... teachers are not held in due respect in our society. They lead (g)..... humble life in (h)..... midst of (i).....want.

Writing

1. Write paragraph on any ONE of the following topics between 100 and130 words: 5x1=5

a) Your University Library b) A dangerous experience

Part-B
Listening and Speaking tests

Time=30 Minutes **Marks=10**

(Note: Listening-5 marks and Speaking-5 marks will be conducted by the course teacher in the lab classes)

the lab classes)

Daffodil International University

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Midterm Examination **Semester: Spring 2020**
Course Code: CSE 112
Course Title: Computer Fundamentals

Time: 1.5 hours **Full Marks: 25**

Answer any **five** (**including Question 6**) of the following **six** questions. That means answering Question 6 is **mandatory**. Figures in the right-hand margin indicate full marks.

1. a) What is data processing? Discuss along with diagram. 3
   b) Describe any four of the five basic operations of a computer system. 2

2. Convert the following numbers into other number systems: 5
   i. $1010.0101_2 = (?)_{10}$
   ii. $321_{10} = (?)_8$
   iii. $A2F_{16} = (?)_8$
   iv. $111010111_2 = (?)_{16}$
   v. $123_4 = (?)_6$ 43

3. a) Show the following equality using binary arithmetic operations: 2.5
   $$111_2 \times 111_2 = 11111_2 + 10011_2$$
   b) Perform the following binary arithmetic operation: 2.5
   $$10011000_2 \div 101_2 = ?$$

4. a) Using 4-bit 2's complement representation, add (-5_{10}) and 7_{10}. 2.5
   b) Find the complement of 101_2 in the following two ways separately: 1.5
      i. Conventional method. +
      ii. Shortcut method. 1

5. Let us consider an 8-bit normalized floating point representation, where 4 bits are used for the mantissa and 4 bits for the exponent. Now, show how the number 0.0011_2 would be stored in memory. Then calculate the range of numbers (magnitude) that may be stored using this mode of representation. 3 + 2

6. *Write the answer to the following questions in a single sentence.*
   a) What is Garbage-In-Garbage-Out (GIGO)? 1
   b) How many bits are required to represent the number 16_{10} in binary? 1
   c) How many bytes are equal to 1 gigabyte (GB)? 1
   d) For 4-bit 2's complement representation, write a number in decimal that does not have the 2's complement representation of the same number with opposite sign. 1
   e) What is the problem of fixed point arithmetic that leads to the adoption of floating point arithmetic? 1

112 2^{-8}

Daffodil International University

Department of Computer Science and Engineering
Faculty of Science and Information Technology
Midterm Examination, Semester: Spring-2020
Course Title: History of the Emergence of Bangladesh and Bangla Language
Course Code: GED111, Level and Term: L1T1
Section: All, Course Teacher: AHA, TJ, MMRS, SAB, MA, MRZ, AYM

Time: 1.5 Hours | Full Marks: 25

১. সংক্ষেপে উত্তর দাও, যে কোনো ৫টি | ৫*২=১০
[Answer in brief, any five] | **5*2=10**

(ক) কোন ঘটনা অশোক কে বৌদ্ধ ধর্মে দিক্ষীত করেছিল?

[(a) Which incident was converted Ashok to Buddhism?]

(খ) মাৎস্যন্যায় বলতে কি বুঝ?

[(b) What do you mean by Disorder (*Matsnaya*)?]

(গ) ইতিহাসে ১৭৫৭ সাল কেন বিখ্যাত?

[(c) Why the year 1757 was famous in History?]

(ঘ) লাহোর প্রস্তাবের সাথে পাকিস্তান রাষ্ট্র সৃষ্টির কি সম্পর্ক রয়েছে?

[(d) What was the relation of Lahore Resolution to create Pakistan State?]

(ঙ) ভাষা আন্দোলনে তমুদ্দিন মজলিসের কি ভূমিকা ছিল?

[(e) What was the role of 'Tamuddin Majlish' in Language Movement?]

(চ) বাঙালী জাতীয়তাবাদ বলতে কি বোঝ?

[(f) What do you mean by Bengali Nationalism?]

(ছ) পকিস্তান আমলে পূর্ব পাকিস্তানে কি কি বৈষম্য লক্ষ্য করা যায়?

[(g) What was the discriminations of East Pakistan in Pakistan Regime?]

২. বর্ণনামূলক উত্তর দাও (যে কোন ৩টি) | ৩*৫ = ১৫
[Answer in detail (any three)] | **[3x5 = 15]**

(ক) "প্রাচীন বাংলার সর্বশেষ শাসনামল সেন যুগের পতন-ই মধ্যযুগে মুসলিম শাসনের সূচনা করে" উক্তিটির যথার্থতা মূল্যায়ন করুন।

[(a) 'The fall down of last Sena Dynasty in ancient Bengal was the starting of Muslim rules in Mediaeval Period'- evaluate the relevance of this statement.]

(খ) নীল বিদ্রোহ কি? ১৭৮৯ সালের ইংল্যান্ডের শিল্পবিপ্লব ভারতীয় উপমহাদেশের কৃষকদের উপর কিরূপ প্রভাব ফেলেছিল? আলোচনা করুন।

[(b) What is Indigo Revolt? How Industry Revolution of 1789 influenced over peasant class in Indian Sub-Continent? Discuss.]

(গ) ১৯০৫ সালের বঙ্গভঙ্গ এবং ১৯৪৭ সালের দেশভাগের মধ্যে কি পার্থক্য পাওয়া যায়? তুমি কি মনে কর 'দ্বি-জাতি তত্ত্ব' বাঙ্গালী জাতীয়তাবাদকে ধ্বংস করেছে?

[(c) What are the differences between Partition of Bengal-1905 and the Divided of India in 1947? Do you think 'Two Nation's Theory' has declined Bengali Nationalism?]

(ঘ) বাঙালী সংস্কৃতিতে বাংলা ভাষা কতটুকু প্রয়োজনীয় বলে তুমি মনে কর? ১৯৫২ সালের বাংলা ভাষা আন্দোলনের প্রেক্ষাপট ব্যাখ্যা করুন।

[(d) How much importance of Bangla Language in Bengali Culture? Explain the background of Bangla Language Movement of 1952.]

Daffodil International University

Department of CSE

Faculty of Science & Information Technology

Mid-term Examination, Spring' 2020

Course Code: MAT111 **Course Title: Basic Mathematics**

Sections: ALL **Level/Term-L1T1** **Course Teacher: ALL**

Time: 1.5 Hours **Total Marks: 25**

Answer any five questions from the followings

Q1.	(a) What is the factor of a number? Find all composite factors of 1200 using tree diagram. (b) Find the HCF and LCM of 5.6, 9.4 and 10.2.	2.5*2=5
Q2.	(a) Express the complex number $(1+i)^3$ in the form $re^{i\theta}$. (b) Find the modulus and Argument of $z=\left(\frac{1+i}{1-i}\right)^2$	2 3
Q3.	(a) Prove that $\left(\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}\right)^2 = 49+20\sqrt{6}$. (b) Simplify $\frac{7\sqrt{3}}{\sqrt{10}+\sqrt{3}}-\frac{2\sqrt{5}}{\sqrt{6}+\sqrt{5}}-\frac{3\sqrt{2}}{\sqrt{15}+3\sqrt{2}}$.	2.5*2=5
Q4.	(a) Find the value of x in terms of a, b and c for $a^x b^{2x} c^{3x} = 2$. (b) Find the value of $\sqrt{(p+q)^2+(p-q)^2}$ with $p=\sqrt{3}$ & $q=\sqrt{2}$.	3 2
Q5.	Find the decomposition of $\frac{x+1}{(x-1)^2(x+3)}$.	5
Q6.	Solve $x^4-14x^3+56x^2-64x=0$ using remainder theorem.	5

Daffodil International University

Department of Computer Science & Engineering
Faculty of Science & Information Technology
Mid-term Examination, Semester: Spring 2020
Course Code: PHY-113 Course Title: Basic Physics
Course Teacher: ALL

Time: 1.5 Hour **Full Marks:25**

SET-A

Answer any two from the following questions: **(4×2)=8**

1. Prove that, no change of momentum takes place due to the action and reaction forces between two particles. **4**
2. Calculate the moment of inertia of a thin uniform rod when the axis is passing through the center of the rod and perpendicular to its length. **4**
3. Derive the differential equation for an object executing simple harmonic motion. Write down the mathematical terms for displacement and velocity. **4**

SET-B

Answer any four from the following questions: **(4×3)= 12**

1. A projectile is shot from a gun tilted at 60° above the horizontal; the muzzle velocity Vo is 3000 ft/sec. (a) What is vertical velocity after 20 sec of flight? (b) What is the altitude at that time? **3**
2. An inelastic collision occurs in one dimension, in which a 15 kg block traveling at 10 m/s collides with a 10 kg block traveling at 5 m/s in the same direction, and they stick together. What are the velocities of the blocks immediately after the collision? **3**
3. The amplitude and frequency of an object executing simple harmonic motion are 0.03 m and 15 Hz respectively. What is the velocity of object at displacement 0.002 m? What is the maximum velocity of the object? **3**
4. A block weighing 12 lb slides on a horizontal frictionless table with a speed of 6 ft/sec. It is brought to rest in compressing a spring in its path. By how much is the spring compressed when it has the spring constant 0.5 lb/ft? **3**
5. A body whose density is 10 kg/m^3 and volume 0.05 m^3 moving from an axis of distance 10cm. Find the moment of inertia of the body. **3**

SET-C

Answer all the following short questions: **(5×1)=5**

1. Frame of reference is used in mechanics to find out **1**

   (i) Mass (ii) Position (iii) Force

2. Which concepts come from dynamics? **1**

   (i) Force (ii) Nature of motion (iii) Inertia

3. What is friction & coefficient of friction? **1**

4. What is projectile motion? **1**

5. What is centripetal force and centrifugal force? **1**