University of Asia Pacific

Department of Basic Sciences and Humanities

Mid Semester Examination, Spring 2016

Programme: B. Sc. Engineering (Computer Science)

(1st Year 1st Semester)

Course Title: Bangladesh Studies: Society and Culture **Course Code: HSS 111(a)**

Credit: 2.00

Time: 1 Hour **Full Marks: 40**

There are **FIVE** questions. Answer **ANY FOUR** (4x10)

1. Define sociological imagination with an example. Explain functionalist and conflict perspective with examples from your own society. 2+8

2. How did G. Lenski classify different types of society? Discuss any two types of societies with examples. 2+8

3. Discuss the steps in doing social research with examples. 10

4. What is culture? Discuss the elements of culture with examples. 2+8

5. All counter cultures are subculture - examine this statement in the light of religious extremist groups. 10

University of Asia Pacific

Department of Basic Sciences and Humanities

Mid Semester Examination, Spring - 2016

Program: B.Sc. Engineering (Computer Science)

1st year 1st semester (Section – C)

Course Title: Bangladesh Studies: History Course Code: HSS 111(b) Credit: 2.00

Total Time: 1 Hour Full Marks: 40

There are **Five** Questions. Answer any **Four.** All questions are of equal value (4 x 10)

1. What were *janapadas*? Identify some *janapadas* of ancient Bengal and their present location.
2. Who was the first known king of Bengal? Analyze his activities.
3. Which dynasty ruled Bengal for long 400 years? Who was the founder of this dynasty? How did he come to power?
4. Who united the territories of Satgaon, Lakhnauti and Sonargaon? Do you think he used religion as a political strategy?
5. Who defeated *Bara Bhuiyans* and how?

University of Asia Pacific
Department of Computer Science & Engineering
Mid-Semester Examination, Spring-2016
Program: BSc. Engg.

1st Year 1st Semester

Course Code : HSS 101 Course Title: English Language I Credit: 3.0
Time : 1 hour Full Marks: 20
*Marks are indicated in the right margin

(Answer all the questions on a separate Answer Script)

1. Read the following extract and complete the questions. **6x0.5= 3**

Many people worked to create television. In 1862, Giovanna Caselli invented a machine called the Pantelograph. Caselli was the first person to send a picture over wires. By the 1880s, Alexander Graham Bell invented a machine that transmitted pictures and sound over wires. His machine was called the Photophone. The World's Fair was held in Paris, France, in the year 1900. The first International Convention of Electricity was held at the World's Fair. That was when the word television was first used – by a Russian named Constantin Perskyi. That name stuck, and is now shortened to "TV." At the beginning of TV history, there were several types of TV technology. One system was a mechanical model based on a rotating disc. The other system was an electronic model. In 1906, Boris Rosing built the first working mechanical TV in Russia. In the 1920s, John Logie Baird in England and Charles Francis Jenkins in the United States demonstrated improved mechanical systems. Philo Taylor also showed an electronic system in San Francisco in 1927. His TV was the forerunner of today's TV, which is an electronic system based on his ideas. Now TV is everywhere. Before 1947, there were only a few thousand televisions in the U.S. By the 1990s, there were televisions in 98% of American homes.

a. When _____ Graham Bell _____ ___ a machine to transmit pictures?
b. Who _____ the term television for the first time?
c. How many types of TV technology _____ available at the beginning?
d. Where _____ the World's Fair _____ ?
e. Who _____ the first mechanical TV in Russia?
f. How many TVs _____ there in the US before 1947?

2. Complete the following sentences with negatives. **6x0.5= 3**

a. Everybody expected Argentina to win the world cup in 2006, but they_____ win the cup.

b. Bangladeshi drivers are not so skilled; as a result they _____ accidents in highways.

c. I asked for help, but the police _____ help me.

d. In this rainy weather you _____ out without an umbrella.

e. He was very tired, because he _____ well.

f. She is studying French though she _____ English properly.

3. **Complete the following using correct forms of pronouns and possessives.** 6x0.5= 3

a. I was in a hurry so I washed the car _____.

b. Barbeque Chicken. _____ we eat at least twice a week, is one of my family's favorite meals.

c. You can choose one person, _____ you like, to share the cruise with you.

d. We don't have to go out, we can fix dinner _____.

e. You'll have to get your own pen. This is _____.

f. This is not my phone, it is _____.

4. **Complete <u>any six</u> of the following and put in the missing *a, an, the* or × (for no article) where necessary.** 6×0.5= 3

a. _____ moon is very bright tonight.

b. He has _____ more expensive car than I do.

c. Water is _____ important resource.

d. _____ dolphin is a very intelligent animal.

e. Oncologists are doctors who specialize in treating _____ cancer.

f. I visited _____ Bahamas last year.

g. I would love to visit _____ North Pole.

h. At the stop sign, turn _____ left and walk three blocks.

5. **Complete the following sentences using appropriate prepositions.** 6 × 0.5 = 3

a) I applied to New York University but they turned me _____.

b) He lives _____ 54 Kazi Nazrul Islam Avenue

c) The tailor told her to turn _____ so he could take exact measurement of the dress.

d) Michael is leaving _____ Friday at noon.

e) We met at the restaurant at 6:30 and stayed _____ 10:30.

f) Just wait a second, I'll be there _____ a minute.

6. **Write a biography of** Humayun Ahmed, **the great novelist, from the information given below. (Use past tenses appropriately.)** 5

1948: born in Mohongonj, Netrokona as the eldest son of Foyzur Rahman Ahmed and Ayesha Foyez .
1965: passed his SSC examination from Bogra Zila School and was listed as second in merit.
1967: passed HSC examination from Dhaka College and started attending Dhaka University
1971: Humayun's father, a police officer and writer, was killed by the Pakistani military during the liberation war of Bangladesh.
1972: Publication of first novel – *Nondito Noroke*.
1973: won the Lekhak Shibir Prize. The award is given to recognize liberal and progressive writers.
1981: won Bangla Academy Award in recognition of his creative genius and overall contribution to the Bengali language and literature.
1983: first television drama by him - *Prothom Prohor* was aired, directed by Nawazesh Ali Khan
1990: urban drama series *Kothao Keu Nei* was aired. People moved with the death of character Baker Bhai.
1994: won national film award for his first directed movie *Aguner Poroshmoni*.
2003: divorced his first wife Gultekin Ahmed whom he married in 1973 and married actress Meher Afroz Shaon 2 years later.
2012: died of colorectal cancer in New York City. He was buried in his estate at Nuhas Polli in Bangladesh.

University of Asia Pacific

Department of Basic Sciences and Humanities

Mid-Semester Examination Spring - 2016

Program: B.Sc. Engineering (CSE) (1st Year 1st Semester)

Course Title: Physics I Course Code: PHY-101 Credit: 3.00

Time: 1.00 Hour Full Mark: 60

N.B- There are ***Four*** Questions. Answer any ***Three***. Figures in the right margin indicate marks.

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1. a) Write down the formula for the work done by variable force and this formula to find out the work done for a spring-mass system during its motion. (12)

b) A 15.0-kg block is dragged over a rough, horizontal surface by a 70.0-N force acting at 20.0° above the horizontal. The block is displaced 5.00 m, and the coefficient of kinetic friction is 0.300. Find the work done by (a) the 70-N force, (b) the normal force, and (c) the force of gravity. (08)

2. Show that during simple harmonic motion the average kinetic energy and average potential energy of a particle is same. And hence find out an expression for the total energy of a particle executing simple harmonic motion. (20)

3. a) Define Poisson's ratio, σ and show that the maximum value of σ will be 0.5. (12)

b) Define viscosity and surface tension of a liquid. Find the rate of flow for a liquid passing through a pipe of cross section 2 cm^2 at a velocity 0.2 m^3/s. (08)

4. a) Define rigidity modulus and derive the relation $\eta = \frac{Y}{2(1+\sigma)}$, where the symbols have their usual meanings. (14)

b) Find the value of rigidity modulus for the material of a wire of Poisson's ratio 0.379 and Young's modulus 7.915×10^{10} N/m^2. (6)

University of Asia Pacific
Department of Basic Sciences & Humanities
Mid Semester Examination, Spring-2016
Program: B.Sc. Engineering (Computer Science)
1st year/1st semester

Course Title: Mathematics I
Time: 1 hr

Course No: MTH 101
Full Marks: 60

Answer any **three** of the followings: $3\times20 = 60$

1. (a) Define dot and cross products of two vectors $\vec{A}$ and $\vec{B}$. 6

   (b) If $\vec{A} = A_1\hat{i} + A_2\hat{j} + A_3\hat{k}$, $\vec{B} = B_1\hat{i} + B_2\hat{j} + B_3\hat{k}$, $\vec{C} = C_1\hat{i} + C_2\hat{j} + C_3\hat{k}$, then prove that, $\vec{A}\cdot(\vec{B}\times\vec{C}) = \vec{B}\cdot(\vec{C}\times\vec{A}) = \vec{C}\cdot(\vec{A}\times\vec{B})$ 14

2. Define continuity of a function. Prove that the function $f(x) = |x|$ is a continuous at $x = 0$ but not differential at $x = 0$. 20

3. (a) If $y = \frac{1}{6x^2-5x+1}$, then find y_n. 14

   (b) Expand $\ln x$ in power of $(x-2)$ by Taylor's theorem in infinite form. 6

4. (a) Evaluate $\int \frac{x^2}{(x+1)^2(x+2)}dx$, using method of breaking up into partial fractions. 14

   (b) Evaluate:

   (a) $\int \frac{a\cot x + b\tan^2 x - c\sin^2 x}{\sin x}dx$ (b) $\int x^2\sqrt{x+1}\,dx$ 6

$6x^2-5x+1$

$2 6x^2 - 3x - 2x + 1$

$3x(2x-1) - 1(2x-1)$

$x, \quad x>0$

$-x, \quad x<0.$

$x \neq 0$

$-(0-h)$