Sukkur IBA University

Merit-Quality-Excellence

ADMISSION FALL 2019

SAMPLE TEST PAPER FOR THE FOLLOWING DEGREE PROGRAMS:

BE-Electrical Engineering, BE-Computer Systems Engineering, BE-Energy Systems Engineering (Renewable) & BS-Mathematics

Part-I (English)   **40 Questions**
Part-II (Mathematics)   **35 Questions**
Part-III (Physics)   **25 Questions**

PART-I (ENGLISH)

READING COMPREHENSION

Read the following passage carefully and answer the questions set below it.

Can we see that the earth is a globe? Yes, we can, when we watch a ship that sails out to sea. If we watch closely, we see the ship begin to disappear. The bottom of the ship disappears first, and then the ship seems to sink lower and lower, until we can only see the top of the ship, and then we see nothing at all. What is hiding the ship from us? It is the earth. Stick a pin most of the way into an orange, and slowly turn the orange away from you. You will see the pin disappear, just as a ship does on the earth.

1. This story is mainly about -
A. the shape of the earth.
B. traveling to the New World.
C. sailing ships in the old days.
D. the shapes of fruits, such as oranges.

2. The ship in this story -
A. probably sank to the bottom of the ocean.
B. was going farther and farther away.
C. was actually a toy.
D. was a sailing ship.

3. A globe is shaped like -
A. a box.
B. a pyramid.
C. an orange.
D. an ice cream cone.

VOCABULARY: SYNONYMS

1. Their diet is often grossly unbalanced.
   A. Completely   B. nearly   C. often   D. frequently

2. The whole thing is a vicious circle.
   A. severe   B. very bad   C. dangerous   D. critical

VOCABULARY: ANTONYMS

1. The people must then go hungry.
A. well-kept   B. well cared for   C. well looked after   D. well fed

2. A particular country might be generous.
A. miserly   B. moderate   C. extravagant   D. frugal

USE OF PREPOSITION

1. The committee regrets that it cannot accede _____ your request for a month's paid leave.
A. for   B. to   C. in   D. with

2. Our college is affiliated _____ the University of Sindh.
A. with   B.to   C. for   D. in

ERROR DETECTION

1. George <u>has not</u> completed <u>the assignment</u> <u>yet</u> and Maria <u>hasn't neither.</u>
           A   B   C   D

2. <u>The sun</u> <u>rose</u> <u>before</u> I <u>got up.</u>
   A   B   C   D

USE OF VERBS

1. Lucy is a good girl and …………………………..for a brother.
A. long   B. longs   C. is longing   D. longed

2. Mango is fruit that I………………………….
A. am always liking   B. have been always liking
C. have always liked   D. have been always liked

USE OF PAIRS OF WORDS:

1. Some wicked …………….. made …………………….of their idol.
A. fun, fans   B. fan, fun   C. fans, fun   D. fans, funs

2. The male child who is the only………… to the property has long, smooth, golden………….
A. hare, heir   B. heir, hare   C. hairs, hare   D. heir, hair

USE OF TENSES

1. I wish I were young forever.
A. Present indefinite tense   B. Present perfect tense
C. Past indefinite tense   D. Past perfect tense

2. Death toll of the earthquake victims is feared to have increased.
A. Past indefinite tense   B. Past perfect tense
C. Present indefinite tense   D. Present perfect tense

PART-II MATHEMATICS

1. $\frac{d}{dx}(ax-b)^n =$
   a) $n(ax^{n-1}-b)$
   b) $n(ax-b)^{n-1}$
   c) nax^{n-1}
   d) $na(ax-b)^{n-1}$

2. If $f(x) = \cos x$, then $f'(\pi) =$
   a) -1
   b) 0
   c) ½
   d) 1

3. $\frac{d}{dx}(5^x) =$
   a) $\frac{5^x}{\ln 5}$
   b) $\frac{\ln 5}{5^x}$
   c) $5^x \ln 5$
   d) 5^x

4. $\int \frac{f'(x)}{f(x)} dx =$
   a) $\ln x + c$
   b) $\ln f(x) + c$
   c) $\ln f'(x) + c$
   d) $f'(x) \ln f(x) + c$

5. $\int_1^2 (x^2+1)\,dx =$
   a) $\frac{3}{10}$
   b) 2
   c) $\frac{10}{3}$
   d) 0

6. $\int_0^2 f(x)\,dx =$
   a) $\int_2^0 f(x)\,dx$
   b) $-\int_0^2 f(x)\,dx$
   c) $-\int_{-2}^0 f(x)\,dx =$
   d) $\int_0^1 f(x)\,dx + \int_1^2 f(x)\,dx$

PHYSICS (PART-III)

1. **If the x-component of the resultant of two vectors is positive and its y-component is negative, the resultant subtends an angle of _____ on x-axes.**
   a) 0°
   b) 90°
   c) 180°
   d) $180^\circ + \theta$

2. **A motorbike undergoes suffers head on collision with another motorbike with 100 N force of impact for a short time of 2 seconds. The impulse is given by**
   a) 50 NS
   b) 100 NS
   c) 150 NS
   d) 200 NS

3. **If a certain transformer having 200 turns in its primary coil converts 11000 voltages to 220 volts for domestic purpose then the number of turns in secondary coil should be:**
   a) 3
   b) 4
   c) 5
   d) 6

4. **The process which converts low voltage signals to high voltage is called _____ :**
   a) Amplification
   b) Transistor
   c) Output
   d) Input

5. **The minimum energy needed by a gamma ray photon to create an electron-positron pair is:**
   a) 1.00 Mev
   b) 1.01 Mev
   c) 1.02 Mev
   d) 1.03 Mev