

Chittagong Independent University

Admission Test, Spring 2023

Name

Roll no



CHITTAGONG INDEPENDENT UNIVERSITY

School of Science and Engineering (SSE)

Admission Test, Spring 2023

Total Marks: 60

Time: 1 hr.

Instructions: (Please read before you start the exam)

- a. **Only non-programmable calculators** are allowed to be used if necessary.
- b. Turn off all other electronic gadgets (Cell-phone, PDAs, Laptops, smart devices, TABs etc.)
- c. There are four sections: English, Mathematics, Physics and ICT.
- d. There are two parts in English. Part A includes multiple choice questions and Part B includes a writing skill.
- e. Each multiple choice question has five possible answers. There is no question with more than one possible answer.
- f. Filling in more than one oval on the answer sheet will lead to cancellation of the answer.
- g. No negative marking or penalization for wrong answers.

Section: English

PART A: Grammar (Total Marks = 20)

Identify which of the five responses that follow each sentence is correct or the most appropriate. Choose the most appropriate answer a, b, c or d by putting a tick (✓) mark to the questions 1 through 10.

Marks = 10 (1 x 10)

- Q1. Our students _____ language and literature in their 4-year course.
A. study just so C. study both E. study without
B. learn both of D. studies both
- Q2. A score of 40% may not be very good but it's certainly _____ on her last mark.
A. a disappointment C. a level E. poor
B. an improvement D. the probability
- Q3. Life is _____ short to worry about future all the time.
A. Too C. very E. not
B. so D. most
- Q4. Traffic was building up on the motorway _____ the fog was getting thicker.
A. that C. while E. as if
B. as long as D. however
- Q5. Since the war, illegal _____ weapons has grown a lot.
A. Business C. uses E. work
B. crimes D. trafficking
- Q6. Masud gave _____ at the conference on the psychological effects of divorce.
A. a report C. a speech E. a book
B. a presentation D. demonstrations
- Q7. Choose the correct sentence:
A. We had to listen to some long and boring lecturers after the meal.
B. We has to listen to some long and boring lecturers after the meal.
C. We had to listen to a long and boring lecturers after the meal.
D. We had listen to some long and boring lecturers after the meal.
E. We will listens to some long and boring lecturers after the meal.
- Q8. Choose the correct sentence:
A. Which pen do you prefer? C. Which are the pen do you prefer? E. Which pen does you prefer?
B. Which pens do you prefer? D. Which pen do you prefers?

Q9. Choose the correct sentence:

- A. There should not be less talk and little work.
- B. There should not be more talk and little work.
- C. There should be less talk and much work.
- D. There should not be much talk and more work.
- E. There should not be much talks and more works.

Q10. Choose the correct sentence:

- | | | |
|----------------------------------|---------------------------------|-----------------------------|
| A. I has visited Agra recently. | C. I had visited Agra recently. | E. I had visit Agra shortly |
| B. I have visited Agra recently. | D. Recently I had visited Agra. | |

PART B: Writing

Marks = 10

Write about the following topic:

Some people think that all university students should study whatever they like. Others believe that they should only be allowed to study subjects that will be useful in the future, such as those related to science and technology.

Discuss both these views and give your own opinion.

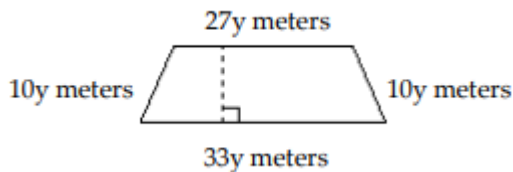
Give reasons for your answer and include any relevant examples from your own knowledge or experience. Write at least 250 words.

Section: Mathematics

Marks- [1x15=15]

1. Value of x in the equation $\frac{x+11}{2} = \frac{3x+5}{3}$ is
- A. $\frac{-23}{3}$ C. $\frac{-22}{7}$ E. $\frac{7}{22}$
B. $\frac{23}{3}$ D. $\frac{-78}{5}$
2. Which one is the correct expression for the equation $4x^2+36x+80=0$
- A. $(x+5)(x-4)$ C. $(x+5)(x+4)$ E. $(x+4)(x+9)$
B. $(x-5)(x-4)$ D. $(x+9)(x-4)$
3. Length of a line joining two points (1, 2) and (4, 8) is
- A. 3 C. $\sqrt{45}$ E. 15
B. 9 D. 45
4. Simplify $\left(a^{\frac{-1}{3}} \times a^{\frac{1}{3}}\right) / a^{\frac{-1}{2}}$
- A. $a^{\frac{-7}{8}}$ C. $a^{\frac{1}{2}}$ E. None of the above
B. $a^{\frac{1}{3}}$ D. a^{-5}
5. Evaluate $\left(\frac{1}{64}\right)^{\frac{-1}{3}}$
- A. 4^{-1} C. 2^{-1} E. 6^{-1}
B. 4 D. 2
6. Probability of an event A that does not occur is
- A. $1 - P(A)$ C. $1 \times P(A)$ E. $2 + P(A)$
B. $1 + P(A)$ D. $2 - P(A)$
7. The arithmetic mean of the numbers 3000, 5000, 4000, 2000 and 6000 is
- A. 4000 C. 5000 E. 4500
B. 6000 D. 3500

8. Find the perimeter of the following trapezoid.



- A. $80y$ m C. $270y$ m E. $90y$ m

Section: Physics

Marks- [1x15=15]

1. With the propagation of a longitudinal wave through a medium, the quantity transmitted in the direction of propagation is _____.
A. Momentum C. Power E. Acceleration
B. Energy D. Mass

2. If the speed of radio wave is $4 \times 10^8 \text{ ms}^{-1}$, then the wavelength of radio waves transmitted at 80 MHz will be
A. 6 m C. 8 m E. 5 m
B. 10 m D. 7 m

3. A human ear can't hear a sound of frequency less than
A. 20 Hz C. 40 Hz E. 60 Hz
B. 30 Hz D. 50 Hz

4. Which of the following is an example of a vector quantity?
A. Temperature C. Volume E. Density
B. Velocity D. Mass

5. If a body is projected vertically upwards with a velocity of _____ or more, it will not return to the earth's surface
A. 8.2 km/s C. 10.2 km/s E. 12.2 km/s
B. 9.2 km/s D. 11.2 km/s

6. The value of acceleration due to gravity, g is
A. 9.81 ms^{-2} C. 0.00981 ms^{-2} E. 98.1 ms^{-2}
B. 981 ms^{-2} D. 0.0981 ms^{-2}

7. Metal detectors installed at airports and other places for security purpose are based on principle of
A. potential difference C. electromagnetic induction E. None of above
B. electromagnetic difference D. potential energy

8. An ammeter is used
A. To measure resistance C. To measure voltage E. To measure Heat
B. To measure capacitance D. To measure current

9. 1 GHz of frequency is equal to _____ Hz.
A. 10^9 C. 10^6 E. 10^3
B. 10^{-9} D. 10^{-6}

Section: ICT

Marks- [1x10=10]

1. _____ controls the way in which the computer system functions and provides a means by which users can interact with the computer.
A. The operating system C. The platform E. None of the above
B. The motherboard D. Application software
.
2. What does HTTP stand for?
A. Hypertext Transfer Plotter C. Hypertext Transfer Protocol E. Hyper-to-transfer practice
B. Head Tail Transfer Protocol D. Hypertext Transfer Plot
.
3. All of the following are examples of real security and privacy risks EXCEPT:
A. Viruses C. Spam E. None of the above
B. Hackers D. Identity theft
.
4. What is the Hexadecimal number of $(01111100111001100100)_2$?
A. 7CD64 C. 7DC64 E. 4FA37
B. 8DC64 D. 7CD46
.
5. A computer program that converts assembly language to machine language is called a
A. Compiler C. Comparator E. None of the above
B. Interpreter D. Assembler
.
6. Which memory is nonvolatile-
A. RAM C. ROM E. None of the above
B. DRAM D. Hard Disk
.
7. The acronym EPROM stand for
A. Electrically programmable read only memory C. Erasable programmable read only memory E. None of the above
B. Extended programmable read only memory D. Encoded programmable read only memory
.

8. Multi-color images are produced in combination of
- | | | |
|--------------------------|--------------------------|----------------------|
| A. Red, Green and Blue | C. Black, Blue and White | E. None of the above |
| B. Green, Blue and White | D. Red, Blue and White | |
9. Which Logic gate denotes the equation, $Y = A \bar{B} + \bar{A} B$
- | | | |
|----------|-----------|----------------------|
| A. NOR | C. NAND | E. None of the above |
| B. Ex-OR | D. Ex-Nor | |
10. A machine language instruction format consists of
- | | | |
|-------------------------|---|----------------------|
| A. Operand field | C. OOP Language | E. None of the above |
| B. Operation code field | D. Operation code field & operand field | |