

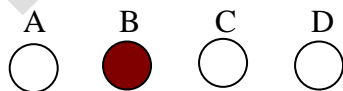
SAMPLE TEST PAPER

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY, KARACHI-75270
PRE-ADMISSION ENTRY TEST BATCH
FOR ADMISSION IN
B.E. / B.E. (SELF FINANCE) / BCIT / B.Arch.

Time Allowed: Two Hours

INSTRUCTIONS

1. Ballpoint pen, dark pencil (BB) and eraser are required for this Test. You may bring with you an ordinary or a scientific calculator. Programmable calculators or any type of tables are not allowed.
2. Give your undivided attention to the Instructions given in the Examination Hall. You will be told when to start and when to stop.
3. During the test, do not borrow any article, talk, whisper or turn your eyes or head away from your own papers. Non-compliance with instructions will disqualify you from the Test.
4. Fill in your Name in Block-Letters, University Roll number and Registration number (or numbers, separated by commas, if you are an applicant under more than one category) with ballpoint pen, on the Answer sheet.
5. The Answer sheet is made of special paper, which gives itself a 'carbon' copy on the Duplicate. Do not use ballpoint pen for answering questions, as you may require to change your answer.
6. Rough work, if required, may be done only on the blank provided with this booklet. Do not write anything anywhere on the Test booklet.
7. Attempt all four Sections, twenty-five questions each, included in this booklet. It is in your interest not to spend more than 30 minutes in answering any of the Sections.
8. Use a dark pencil to shade-in the circle representing your choice. For example, the choice B is shown below:



More than one answer will be considered as an incorrect answer. If you want to change your choice, do not cross it, use an eraser.

9. Detach and submit the Original Answer sheet together with test booklet before you leave the Examination Hall or when asked. The Duplicate sheet is your take-home copy to help you to evaluate your own Test performance and may be required for any later reference.

SECTION-I ENGLISH

Direction: In each of the following sentences, a word or phrase is underlined. From the choices given, select the one word or phrase that best preserves the meaning of the original sentence. Indicate the correct answer by blackening the corresponding space on the answer grid.

1. Home buyers are proceeding cautiously because of the high interest fields.
A) hastily B) occasionally C) warily D) deliberately
2. Due to the efforts of conservationists and environmentalists, few people are unaware of the problems of endangered species.
A) obstinate about B) ignorant of C) indifferent to D) adjacent to
3. Shelley's famous poem "To a Skylark" praises the bird for its carefree spirit.
A) keen B) harsh C) blithe D) gauche
4. The development of general anesthetics has allowed doctors to operate without the pain once associated with surgery
A) fear B) protest C) rage D) anguish
5. Severe snowstorms cause power failures in the Northeast every winter.
A) Tornadoes B) Hurricanes C) Blizzards D) Earthquakes

Directions: Choose the best opinion to complete the following sentence:

6. There are four major industries in the area, _____.
A) each employing over 2,000 workers B) where 2,000 are employed at
7. The success of the play was due to _____.
A) the doctors and how it was produced B) the acting and the production
8. It can be dangerous for one's health _____.
A) to diet continually and to avoid exercise B) dieting continually with no exercise
9. Having studied only English, _____.
A) a foreign language would appeal to me B) I am looking forward to taking a foreign language
10. The company has invested millions o dollars _____.
A) so the unemployed can get new jobs B) to create new jobs for the unemployed

11. Some men see the riot as one more incident leading to a inevitable war.

12. Conditions in the country has grown so severe that many refugees have risked death to escape.

13. You must fill out the application form in full and be interviewed before you will be

considering for the job.

14. A man who can win two elections uncontested is a man whose character is firmly establish.

15. If anyone happens to call while I am out of the office, please have them leave a message for me.

16. Give an example pertinent _____ the case.

17. The candidates were tense _____ expectancy.

18. My voice reverberated _____ the walls of the castle.

19. Are not these slums a disgrace _____ the civic authorities.

20. She could not dissociate herself _____ what she said earlier.

A PRESENTATION OF STUDENTS' CORNER

CRITICAL READING

Instructions: The questions in this group are based on the content of a passage. After reading the passage, choose the best answer to each question. Answer all questions following the passage on the basis of what is *stated* or *implied* in the passage.

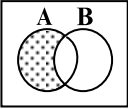
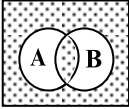
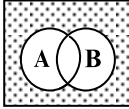
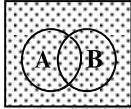
Questions 21– 25 are based on the following passage:

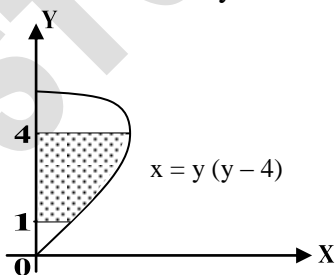
Most of us use the products of science – railways, aeroplanes, electricity, wireless and thousands of others – without thinking how they came into existence. We take granted, as if we were entitled to them as a matter of right. We are very proud of the fact that we live in an advanced age and are ourselves very advanced. Now, there is no doubt that our age is a very different one from previous ages and I think it is perfectly correct to say that it is far more advanced. But that is a different thing from saying that we as individuals or groups are more advanced. It would be the height of absurdity to say that because an engine driver can run an engine and Plato or Socrates could not, the engine driver is more advanced than, or is superior to, Plato or Socrates. But it would be perfectly correct to say that the engine itself is a more advanced method of locomotion than Plato's chariot was.

21. Which one of the following statements is true?
 - (A) An engine driver is cleverer than Plato or Socrates
 - (B) Plato or Socrates are in no way inferior to the engine driver
 - (C) Plato and Socrates surpassed the engine driver in every respect
 - (D) The engine driver cannot be compared to Plato or Aristotle
22. In this passage, the author mentions Plato and Socrates to emphasize that
 - (A) They were men of great scholarship
 - (B) People as individuals in the modern age are not more advanced than their predecessors.
 - (C) The engine is a better mode of locomotion than Plato's chariot
 - (D) Plato and Aristotle had greater respect for learning
23. According to the author, the present age is far more advanced than
 - (A) All the previous ages in some respects
 - (B) The age of Socrates and Aristotle in some respect
 - (C) Some of the previous ages in all respects
 - (D) All the previous ages in all respects
24. Many of us make use of machines
 - (A) With very little knowledge of their mechanism
 - (B) Without any knowledge of their historical significance
 - (C) With full knowledge of their genesis
 - (D) Without knowing how they were invented
25. People today are very proud because they live
 - (A) In a philosophically advanced age
 - (B) In a materially advanced age
 - (C) In a scientifically advanced age
 - (D) In a spiritually advanced age

SECTION-II MATHEMATICS

1. In the draw of a card from a deck of ordinary playing cards, find the probability that the card is a 7 or a club.
A) $4/3$ B) $5/26$ C) $6/27$ D) $5/6$ E) $7/12$
2. A particular geography textbook has 10 chapters. An instructor of seminar course wishes to cover seven of the chapters. How many ways can she do this?
A) 112 B) 260 C) 72 D) 120 E) 700
3. A raffle is entered by 25 people. How many ways can a first and second prize be awarded?
A) 60 B) 400 C) 500 D) 200 E) 300
4. Which of the following functions is an odd function?
A) $f(x) = x^3 + 1$ B) $f(x) = x / (x - 1)$ C) $f(x) = x^3 + x$
D) $f(x) = 2x$ E) $f(x) = \cos x$
5. If $f(x) = x^2 + 1$ and $f(g(x)) = 4x - 3$, then $g(x) =$
A) $2\sqrt{x} - 1$ B) $2\sqrt{x - 1}$ C) $\sqrt{x} - 4$ D) $\sqrt{4x + 4}$ E) $\frac{\sqrt{x-1}}{4}$
6. The identity element in R w.r.t \odot where $a \odot b = \sqrt{a^2 + b^2}$, $\forall a, b \in R$ is
A) -1 B) 0 C) 1 D) $+\infty$ E) $-\infty$
7. Value of x in $\log_5 x = 4 \log_x 5$ is
A) 25, $1/25$ B) 1, -1 C) 0, 1 D) 2, 3 E) 4, 5
8. $(2a - 3b)^4 = ?$
A) $16a^4 + 96a^3b + 216a^2b^2 + 216ab^3 + 81b^4$
B) $16a^4 - 96a^3b + 216ab^2 - 216ab^3 + 81b^4$
C) $16a^4 - 96a^3b + 216a^2b^2 - 216ab^3 + 27b^4$
D) $16a^4 - 96a^3b + 216a^2b^2 - 616a^2b + 216ab^3 + 81b^4$
E) $16a^4 - 96a^3b + 216a^2b^2 - 216ab^3 + 81b^4$
9. The term independent of x in the expansion of $\left(x - \frac{1}{x^2}\right)^{15}$ is
A) -1003 B) -3003 C) -1001 D) 80286 E) -8064
10. Root(s) of $x^2 - 2z + 2 = 0$ is/are
A) $1+i$ B) $1-i$ C) 1 D) -1 E) A & B both
11. The series $1/10 + 1/10^2 + 1/10^3 + \dots$ is
A) Convergent B) Divergent C) Absolute convergent
D) Partial convergent E) Conditional convergent
12. $\lim_{x \rightarrow 2} (x^2 - 5x + 6) / (x^2 - 12x + 20) = ?$
A) 1 B) $1/2$ C) $1/4$ D) $1/8$ E) $1/16$

13. The equation of the circle which passes through the point $(-2, 4)$ and has the same centre as the circle whose equation is $x^2 + y^2 - 4x - 6y - 23 = 0$ is
 A) $x^2 + y^2 - 6x + 2y - 15 = 0$ B) $x^2 + y^2 - 6x + 8y + 6 = 0$ C) $x^2 + y^2 - 4x - 7y = 0$
 D) $x^2 + y^2 - 4x - 6y - 52 = 0$ E) $x^2 + y^2 - 8x - 3y + 6 = 0$
14. Let $U = \{0, 1, 2, 3\}$ and $A = \{0, 1, 2\}$, $B = \{1\}$ and $C = \{2, 3\}$ then $A \cup B \cup C = ?$
 A) U B) A C) B D) C E) \emptyset
15. Let U be the universal set and A, B , are the subsets of U then the correct Venn diagram for $(A \cup B)'$ is
 A)  B)  C)  D)  E) All of these
16. The area of a circle whose center is at $(0, 0)$ is 25π . The circle passes through all of the following points EXCEPT
 A) $(-5, 0)$ B) $(5, 5)$ C) $(5, 0)$ D) $(0, 5)$ E) $(0, -5)$
17. City B is 8 miles east of City A, City C is 6 miles north of City B, City D is 16 miles east of City C, and City E is 12 miles north of city D. What is the distance from City A to City E?
 A) 10 miles B) 20 miles C) 24 miles D) 30 miles E) 42 miles
18. $\sin\theta\cos\theta\tan\theta + \sin\theta\cos\theta\cot\theta = ?$
 A) 0 B) -1 C) 1 D) 2 E) -2
19. If $\sin 37^\circ = z$, then $\sin 74^\circ$ equals
 A) $2z\sqrt{z^2 - 1}$ B) $2z^2 + 1$ C) $2z$ D) $2z^2 - 1$ E) $\frac{z}{\sqrt{1 - z^2}}$
20. Find the gradient of the curve $y = 2x + 1/x$ at the point $(1, 3)$
 A) -2 B) -1 C) 0 D) 1 E) 2
21. $\int_1^2 \frac{(2x+1)}{x} dx = ?$
 A) $\ln 2$ B) $2 + \ln 2$ C) $2 - \ln 2$ D) $2\ln 2$ E) $2\ln 3$
22. The area enclosed by the curve $x = y(4 - y)$ and the y-axis is



- A) $10 \frac{2}{3}$ sq units B) $4 \frac{1}{5}$ sq units C) $7 \frac{1}{6}$ sq units
 D) $2 \frac{1}{3}$ sq units E) $5 \frac{1}{4}$ sq units

23. Inverse of the matrix $A = \begin{bmatrix} 6 & 2 \\ 2 & 2 \end{bmatrix}$ is
A) $\begin{bmatrix} 1/4 & -1/4 \\ -1/4 & 3/4 \end{bmatrix}$ B) $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$ C) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ D) $\begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}$ E) It does not exist
24. The n th term of an AP is given by $T_n = 7n - 5$. The sum of the first 16 terms is
A) 872 B) 344 C) 670 D) 896 E) 542
25. The volume of parallelepiped with edges OA, OB and OC where A,B,C are the points (0,1,1), (-2,1,3), (2,-2,0) is
A) 2 B) 4 C) 6 D) 8 E) 10

SECTION-III PHYSICS

1. A vector having zero magnitude is called
A) A unit vector B) A position vector C) A negative vector D) A null vector
2. An acceleration of 1 m/s^2 is produced in a body of mass 1 kg by a force of
A) One pound B) One Newton C) One dyne D) One slug
3. A projectile attains maximum horizontal range when it is projected at an angle of
A) 30° with the horizontal B) 45° with the horizontal
C) 60° with the horizontal D) 90° with the horizontal
4. The SI unit of angular displacement is
A) Meter B) Centimeter C) Kelvin D) Radian
5. Which one of the following can be used to determine the mass of the earth
A) Kepler's law B) Newton's law of motion C) Coulomb's law D) Newton's law of gravitation
6. The weight of man in an elevator moving down with an acceleration of 9.8 m/s^2 will become
A) Double B) Half C) zero D) Unchanged
7. The tidal energy is due to the gravitational pull of
A) Mars on water B) Moon on water C) Sun on water D) Jupiter on water
8. A solar cell is device which converts solar energy into
A) Heat energy B) Nuclear energy C) Chemical energy D) Electrical energy
9. If a simple pendulum is shifted from Karachi to Mount Everest, its time period
A) decreases B) Increases C) Remains constant D) Decreases slightly
10. An average human ear can hear the sound of frequency
A) 200 to 500 Hz B) 20 to 20000 Hz
C) 30000 to 50000 Hz D) Above 50000 Hz
11. If the air pressure is doubled, the speed of sound
A) Decreases by 0.61 m/s B) Increases by 0.61 m/s
C) Increases by 61 cm/s D) Remains unchanged
12. The energy of a photon is directly proportional to
A) Wavelength B) Intensity C) Frequency D) None of these
13. One Angstrom is equal to
A) 10^{-10} cm B) 10^{-8} cm C) 10^{-8} m D) 10^{-10} mm
14. The focal length of a convex lens is
A) Negative B) positive C) either positive or negative D) none of these

15. At constant temperature, if the volume of the given mass of gas is doubled, then the density of the gas becomes
 A) One half B) One fourth C) Double D) remains constant
16. The heat capacity per unit mass of a body is called
 A) Heat of fusion B) Latent heat C) specific heat D) Calorie
17. The first law of thermodynamics is merely a statement of
 A) Law of conservation of momentum B) Law of conservation of mass
 C) Law of conservation of energy D) Charles's law
18. Net change in entropy of a system in a Carnot's cycle is
 A) Negative B) Positive C) Entropy remains the same D) none of these
19. Electric flux per unit area is a measure of
 A) Electric force B) Electric intensity C) Electric potential D) None of these
20. Which of the following is correct?
 A) 1 ampere = 1 coulomb x 1 second B) 1 ampere = 1 second/coulomb
 C) 1 ampere = 1 coulomb/1 second D) None of these
21. Find the value of 'a' if two vectors $A = 2\hat{i} + a\hat{j} + k$ and $B = 4\hat{i} - 2\hat{j} + 2k$ are perpendicular to each other
 A) 20 B) 15 C) 10 D) 5
22. A body of mass 1 kg moving with initial velocity of 1 m/sec is acted upon by a force for 1 sec. The increase in kinetic energy is
 A) 1.0 J B) 2.0 J C) 2.5 J D) 3.0 J
23. A body traveling at constant speed of 2 km/h moves along a circular curve of radius 1000 m. Its acceleration will be
 A) 2 km/h² B) 3 km/h² C) 3.5 km/h² D) 4 km/h²
24. A convex lens of 20 cm, focal length is used to form an erect image which is twice as large as the object. The position of object from the lens is
 A) 5 cm B) 30 cm C) 15 cm D) 20 cm
25. If ten resistances each of 10 ohms are connected in parallel then the total resistance is
 A) 1 ohm B) 5 ohms C) 2 ohms D) 10 ohms

SECTION-IV CHEMISTRY

1. Aqua regia is a mixture of
A) HNO_3 and H_2SO_4 B) H_2SO_4 and NaNO_3 C) HCl and HNO_3 D) H_2O and HCl
2. CuSO_4 solution turns blue litmus red because of formation of
A) strong base B) strong acid C) neutral solution D) poison
3. When any solid is changed to gas without melting the process is called
A) diffusion B) boiling C) sublimation D) distillation
4. " $P_1V_1 = P_2V_2$ at constant pressure and mass", is the mathematical expression of
A) Boyles law B) Charles law C) Avogadro's hypothesis D) Dalton's law
5. Colourless gas with a bad smell of that of rotten eggs is
A) CO_2 B) N_2 C) H_2S D) SO_2
6. In gold plating the cathode is made of
A) copper B) Metal to be plated C) Gold D) Silver
7. In any exothermic reaction heat energy is
A) Released B) Absorbed C) taken in by the reactants D) no heat changes
8. Gamma rays have
A) Unit mass and minus charge B) zero mass and zero charge
C) zero mass and positive charge D) none of these
9. All members of homologous series of Alkenes share a general molecular formula of
A) $\text{C}_n\text{H}_{2n-2}$ B) C_nH_{2n} C) $\text{C}_n\text{H}_{2n+2}$ D) CH_2
10. What will be the volume of the gas at 2 atm if it occupies a volume of 400 ml at 700 tor, at constant temperature
A) 368 ml B) 184 ml C) 22.4 ml D) 92 ml
11. Brass is an alloy of
A) copper and tin B) gold and copper C) copper and zinc D) iron and tin
12. Maximum possible number of electrons in an energy level or shell 'n' is given by
A) $2n^2$ B) $4n^2$ C) $4n$ D) $2n^4$
13. The pressure at which one mole of the gas at 0°C occupies a value of one liter is closest to
A) 1 atm B) 760 mm C) 22.4 atm D) 22.4 ml
14. How many neutrons are there in $^{151}_{53}\text{I}$
A) 53 B) 98 C) 151 D) 204

15. The formula of calcium carbide is
 A) CaCO_3 B) CaCN_2 C) CaC_2 D) $\text{Ca}(\text{HCO}_3)_2$
16. Fluorine, Chlorine, Bromine and Iodine belong to the same group of the periodic table and they show similarities in properties due to
 A) density B) size C) electronic configuration D) boiling point
17. Which of the following molecules will be polar?
 A) CH_4 B) CO_2 C) H_2O D) F_2
18. Which one of the following give sulphur dioxide when heated in air?
 A) sulphuric acid B) iron pyrite C) sodium sulphide D) none of these
19. The molar mass (molecular weight) of NaOH is 40.0. How many grams of NaOH will be required to prepare 0.01 NaOH solution
 A) 40.0 g B) 4.0 g C) 0.40 g D) 0.04 g
20. 20 ml of 0.1 M NaOH is titrated with 0.5 M H_2SO_4 . At the end point, the burette reading will be
 A) 20 ml B) 10 ml C) 5 ml D) 2 ml
21. Under comparable condition if N_2O , NO , NO_2 and N_2O_5 gases are allowed to diffuse, the gas which will diffuse most quickly is
 A) N_2O_5 B) NO C) N_2O D) NO_2
22. Which of the following statement is true
 A) the surface tension of a liquid increases with increase of temperature
 B) the surface tension of a liquid decrease with increase of temperature
 C) the surface tension of a liquid does not depend upon temperature
 D) the surface tension of liquid depends upon the volume of the liquid
23. The name of the functional group $\begin{array}{c} \text{O} \\ \parallel \\ -\text{C} \\ \backslash \\ \text{OH} \end{array}$ is
 A) Carbonyl group B) carboxylic group
 C) hydroxyl group D) aldehydic group
24. The formula of Xylene is
 A) C_6H_6 B) $\text{C}_6\text{H}_5\text{NO}_2$ C) $\text{C}_6\text{H}_5\text{CH}_3$ D) $\text{C}_6\text{H}_5\text{OH}$
25. Amino acids present in protein are important for body growth. Which of the following cannot be a source of amino acid.
 A) Meat B) milk C) beans D) sugar

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SAMPLE TEST PAPER

ANSWER KEY

PART-I ENGLISH	PART-II MATHEMATICS	PART-III PHYSICS	PART-IV CHEMISTRY
1. C	1. A	1. D	1. C
2. B	2. D	2. B	2. B
3. C	3. A	3. B	3. C
4. D	4. C	4. D	4. A
5. C	5. B	5. D	5. C
6. A	6. B	6. C	6. B
7. B	7. A	7. B	7. A
8. A	8. E	8. D	8. B
9. B	9. B	9. B	9. B
10. B	10. E	10. B	10. B
11. D	11. A	11. D	11. C
12. A	12. D	12. C	12. A
13. D	13. D	13. B	13. C
14. D	14. A	14. B	14. B
15. C	15. C	15. A	15. C
16. D	16. B	16. C	16. C
17. A	17. D	17. C	17. C
18. B	18. C	18. C	18. B
19. B	19. A	19. B	19. D
20. C	20. D	20. C	20. D
21. D	21. B	21. D	21. B
22. B	22. A	22. A	22. B
23. A	23. A	23. D	23. B
24. D	24. A	24. A	24. C
25. C	25. B	25. C	25. D

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