Pakistan Institute of Engineering and Applied Sciences(PIEAS)
Admission Sample Test 01

ENGLISH:

Directions: *For each question below you are given four choices. SELECT ANY ONE THAT IS MOST APPROPRIATE ANSWER* **ALL ANSWER MUST BE GIVEN ON THE ANSWER SHEET.** *YOUR ANSWERS MUST BE INDICATED BY LETTERS (A, B, C, D) AND NOT BY THE WORDS THEMSELVES.*

READING COMPREHENSION

Direction: Please read the passage below and answer the questions on the basis of what is stated or implied.

Passage 1

It is truth universally acknowledged that a single man in possession of a good fortune must be in want of a wife. However little known the feelings or views of such a man may be on his first entering a neighborhood, this truth is so well fixed in the minds of the surrounding families that he is considered as the rightful property of someone other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Nether field Park is let at last?"

Mr. Bennet replied that he had not.

"But it is "returned she;" for Mrs. Long has just been here, and she told me all about it"

Mr. Bennet made no answer.

"So not you want to know who has taken it?" cried his wife impatiently.

"You want to toll me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Nether field is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the place, and was so much delighted with it, that he agreed with Mr. Morris immediately; that he is to take possession before Michaelmas, and some of his servants are to be in the house by the end of next week."

"What is his name?"

"Bingley."

"Is he married or single?"

"Oh! Single, my dear, to be sure! A single man of large fortune; four or five thousand a year. What a fine thing for our girls!"

"How so? How can it affect them?"

"My dear Mr. Bennet," replied his wife, "how can you be so tiresome! You must know that I am thinking of his marrying one of them."

"Is that his design is settling here?"

"Design! Nonsense, how can you talk so! But it is very likely that he may fall in love with one of them, and therefore you must visit him as soon as he comes."

"I see no occasion for that. You and the girls may go, or you may send them by themselves, which perhaps will be still better, for as you are as handsome as any of them, Mr. Bingley might like you the best of the party."

"My dear, you flatter me. I certainly have had my share of beauty, but I do not pretend to be anything extraordinary now. When a woman has five grown-up daughters she ought to give over thinking of her own beauty."

"In such cases, a woman has not often much beauty to think of."

"But. My dear, you must indeed go and see Mr. Bingley when he comes into the neighborhood."

"It is more than I engage for, I assure you."

"But consider your daughters. Only think what an establishment it would be for one of them. Sir William and Lady Lucas are determined to go, merely on tat account, for in general you know, they visit no newcomers. Indeed you must go, for it will be impossible for us to visit him if you do not."

"You are over-scrupulous, surely. I dare say Mr. Bingley will be very glad to see you; and I will send a few lines by you to assure him of my hearty consent to his marrying whichever he chooses of the girls: though I must throw in a good word for my little Lizzy."

"I desire you will do no such thing. Lizzy is not a bit better than the others; and I am sure she is not half so handsome as Jane, nor half so good-humored as Lydia. But you are always giving her the preference."

"They have none of them much to recommend them," replied he; "they are all silly and ignorant, like other girls; but Lizzy has something more of quickness than her sisters."

"Mr. Bennet, how can you abuse your own children in such a way? You take delight in vexing me. You have no compassion of my poor nerves."

"You mistake me, my dear. I have a high respect for your nerves. They are my old friends. I have heard you mention them with consideration these twenty years at least."

"Ah! You do not know what I suffer."

"But I hope you will get over it, and live to see many young men of four thousand a year come into the neighbourhood."

"It will be no use to us, if twenty such should come, since you will not visit them."

"Depend upon it, my dear, that when there are twenty, I will visit them all."

1.   A reading of the entire passage makes it clear that all of the following are true of the opening sentence except
   A)   it is ironically intended
   B)   Mr. Bingley is taken as an instance of that general truth
   C)   It is true as far as Mr. and Mrs. Bennet are concerned
   D)   It sets the author's tone for the entire passage
   E)   It offers the Bennet girls hope

2.   Mr. Bennet
   A)   does not wish his daughters to marry
   B)   is a bitter man without emotion or humor
   C)   is afraid Bingley will find his wife attractive

D) generally follows his heart rather than his head
E) probably regards his wife as "silly" too

3. All of the following are true of Mrs. Bennet except
   A) she prefers good looks to cleverness
   B) she understands her husband's dry humor
   C) she highly competitive for her daughters' sakes
   D) her nervous disposition is not undermining her health
   E) she believes she was once extraordinarily beautiful

Passage 2

We can study our own cosmologies __in a specialized department of astronomy. But primitive cosmologies cannot rightly be pinned out for display like exotic Lepidoptera, without distortion to the nature of a primitive culture. In a primitive culture the technical problems have been more or less settled for generations past. The live issue is how to organize other people and oneself in relation to them; how to control turbulent youth, how to prevent usurpation of authority, or how to justify it. To serve these practical social ends all kinds of beliefs in the omniscience and omnipotence of the environment are called into play. If social life in a particular community has settled down into any sort of constant form, social problems tend to crop up in the same areas of tension or strife. And so as part of the machinery for resolving them, these beliefs about automatic punishment, destiny, ghostly vengeance and witchcraft crystallize in the institutions. So the primitive world view which I have defined above is rarely it self an object of contemplation and speculation in the primitive culture. It has evolved as the appendage of other social institutions. To this extent it is produced indirectly, and to this extent the primitive culture must be taken to be unaware of itself, unconscious of its own conditions.

Downloaded these Sample Papers from: www.entrytest.com

For Online Test Preparation: www.thecatonline.com

Phone : +92 61 4550698, +92 61 814 333, 03326077772

4. Primitive cosmologies are all of the following except
   A) compounded part of belief and part of practice
   B) carefully thought out abstract systems
   C) linked to and the by-products of social institutions
   D) part of an undifferentiated world view
   E) the means of maintaining social order

5. The author implies that, because of the nature of primitive life, Western students of culture would make the most intellectual progress by
   A) comparing primitive ghosts and demons with our own Halloween customs
   B) comparing the world views of different primitive cultures
   C) comparing primitive economies with modern money systems
   D) comparing the social institutions of primitive cultures
   E) remembering that our culture is both materially and spiritually superior to all primitive cultures

Passage 3

When I think how I have been swindled by books of Oriental travel, I want a tourist for breakfast. For years

and years I have dreamed of the wonders of the Turkish bath; for years I have promised myself that I would yet enjoy one. Many and many a time, in fancy, I have lain in the marble bath, and breathed the slumberous fragrance of Eastern spices that filled the air; then passed through a weird and complicated system of pulling and hauling and drenching and scrubbing, by a gang of naked savages who loomed vast and vaguely through the steaming mists, like demons; then rested for a while on a divan fit for a king; then passed through another complex ordeal, and one more fearful than the first and, finally, swathed in soft fabrics, been conveyed to a princely saloon and laid on a bed of eiderdown, where eunuchs, gorgeous of costume, fanned me while I drowsed and dreamed, or contentedly gazed at the rich hangings of the apartment, the soft carpets, the soothing narghili, and dropped, at the last, into tranquil repose, lulled by sensuous odors from unseen censers, by the gentle influence of the narghili, Persian tobacco, and by the music of fountains that counterfeited the patter of summer rain.

That was the picture, just as I got it from incendiary books of travel. It was a poor, miserable imposture. The reality is no more like it than the Five Points are like the Garden of Eden. They received me in a great court, paved with marble slabs; around it were broad galleries, one above another, carpeted with seedy matting, railed with unpainted balustrades, and furnished with huge rickety chairs, cushioned with rusty old mattresses, indented with impressions left by the forms of nine successive generations of men who had reposed upon them. The place was vast, naked, and dreary; its court a barn, its galleries stalls for human horses. The cadaverous, half-nude varlets that served in the establishment had nothing of poetry in their appearance, nothing of romance, nothing of Oriental splendor. They shed no entrancing odors ____--just the contrary. Their hungry eyes and their lank forms continually suggested one glaring, unsentimental fact-they wanted what they term in California "a square meal."

This prison was filled with hot air. When I had got warmed up sufficiently to prepare me for a still warmer temperature, they took me where it was___ into a marble room, wet, slippery, and steamy, and laid me out on raised platform in the center. It was very warm. Presently my hand with a coarse mitten, and began to polish me all over with it. I began to smell disagreeably. The more he polished the worse I smelt…

After a while he brought a basin, some soap, and something that seemed to be the tail of a horse. He made up a prodigious quantity of soap-suds, deluged me with them from head to foot, without warning me to shut my eyes, and then swabbed me viciously with the horse tail. Then he lifts me there, a snowy statue of lather, and went away. When I got tired of waiting I went and hunted him up. He was propped against the wall, in another room, asleep. I woke him. He was not disconcerted. He took me back and flooded me with hot water, then turbaned my head, swathed me with dry table-cloths, and conducted me a latticed chicken coop in one of the galleries, and pointed to one of those Arkansas beds. I mounted it, and vaguely expected the odors of Araby again. They did not come.

6. "I want a tourist for breakfast" makes sense because
   A) the author himself was a tourist
   B) travel books were written by tourists
   C) the author had probably been irritated by his traveling companions
   D) it stresses the manly, American, "meat-eating" qualities

E) the local food was not appetizing

7. Books of travel are called "incendiary" because
   A) they are fit for burning
   B) they fire false expectation
   C) they arouse sexual passion
   D) they are part of a hellish conspiracy
   E) they describe the heat of Turkish bath

8. The author experienced a Turkish bath
   A) in California
   B) in the Near East
   C) in prison
   D) in Arkansas
   E) only through the pages of books

9. The author employs all of the following rhetorical devices except
   A) paradox
   B) understatement
   C) irony
   D) metaphor
   E) overstatement

10. All of the following techniques are used to produce humor except
    A) a sense of cosmic purposelessness
    B) exaggeration
    C) slapstick
    D) mixing sentimental writing with slang
    E) pricking the bubble of one's over inflated expectations

Passage 4

Most of our fog is of the type which takes the air as is and cools it down. The typical chain of events starts with the very commonplace flooding of the Los Angeles basin with marine air. But it must be an uncommonly shallow layer so the cooling will be concentrated on as small a mass of air as possible. This condition allows the maximum temperature drop for a given amount of cooling. Typically it would happen in the winter when the nights are long and the cooling takes place over the maximum length of time. Furthermore it takes a night on which the skies are clear. Under such conditions the moist marine air loses its heat by radiation to the sky ___no blanket of clouds above to intercept its radiation and radiate energy back. Finally it must be a calm night so that the shallow layer of cooled air next to the ground remains intact, does not get mixed up into the warmer air aloft. Given these conditions, we get fog that goes by the remarkably simple title of in the low spots on crisp windless winter dawns.

Such radiation fogs come in all shapes and sizes, as dictated by the terrain. The chilled air drains

down and accumulates in the low areas___ a remarkable imitation of the behavior of water except that it moves much more slowly. The fog forms everything from small ponds to great inland seas. Every winter brings a lake of radiation fog several hundred miles long to the great central valley of California. This valley, a combination of the San Joaquin and Sacramento valleys, is surrounded completely by mountain ranges and runs about half the length of the state. It has the High Sierra on the east, the Tehachapis on the south, the Siskiyous on the north, and the coastal ranges on the west, with only the narrow Golden Gate as a chink in the wall. Often winter storms leave behind a shallow layer of clear, cold, moist air in this vast valley. Not infrequently the following anticyclone settles for a whole over the western United States, providing the valley with dry, cloudless, relatively warm air aloft for weeks at a time. The perfect prescription for a radiation fog of staggering dimensions. And the great central valley gets it! It's best seen on pictures taken by meteorological satellite. Once the fog forms, each night reinforces it with additional cooling that more the compensates for the small amount of daytime heating. Weeks may pass during which the sun is not seen. The fog is destroyed only when a storm arrives and applies the big broom with turbulent winds sweeping the length of the valley.

11.   The primary purpose of the passage is
   A)   to describe weather conditions in the great central valley of California
   B)   to define two types of fog
   C)   to explain the causes of and give a remarkable instance of radiation fog
   D)   to compare temporary coastal fogs with long-lasting inland fogs
   E)   to show how a scientific understanding of fog can be gained by induction

12.   Huge lakes of long-lasting fog are possible
   A)   when nights are windy and stormy
   B)   when the air aloft is moist and cool
   C)   during summer evenings
   D)   when the wind blows out to sea
   E)   when a train layer of cool ocean air is trapped

13.   1.   During a radiation fog that persists for days
              I.   air at ground level cools in the long winter nights
             II.   the warmer upper air remains calm
            III.   the cooler lower air radiates its heat away
   A)   I and II
   B)   I and III
   C)   II and III
   D)   I, II, and III
   E)   none of the three

14.   The "chink" of the narrow Golden Gate
   A)   is so narrow a passageway that fog cannot escape through it

B)   is in the central valley of California
C)   allows ocean air to enter the central valley
D)   appears on meteorological pictures
E)   allows high warm winds from Arizona to enter the valley

15.   The chief method the author uses in developing his ideas is
A)   contrast
B)   cause and effect
C)   definition
D)   paradox
E)   comparison

LOGICAL REASONING:

16.   Kirkland's theory of corporate structure can be represented by a truncated pyramid. There are workers, middle management, and executive management, but no head of the corporation. Instead, all major decisions are made by committee. As a consequence, in Kirkland's structure, risky, cutting-edge technologies cannot be developed. Which one of the following is an assumption on which the argument depends?
A.   Cutting-edge technologies are typically developed by entrepreneurs, not by big corporations.
B.   Only single individuals will make risky decisions
C.   An individual is more likely to take a gamble on his own than in a group.
D.   All heads of corporations reached their positions by taking risks.
E.   All cutting-edge technologies involve some risk.

17.   Some people believe that witnessing violence in movies will discharge aggressive energy. Does watching someone else eat fill one's own stomach? In which one of the following does the reasoning most closely parallel that employed in the passage?
A.   Some people think appropriating supplies at work for their own personal use is morally wrong. Isn't shoplifting morally wrong?
B.   Some people think nationalism is defensible. Hasn't nationalism been the excuse for committing abominable crimes?
C.   Some people think that boxing is fixed just because wrestling usually is. Are the two sports managed by the same sort of people?
D.   Some people think that economists can control inflation. Can meteorologists make the sun shine?
E.   Some people think workaholics are compensating for a lack of interpersonal skills. However, aren't most doctors workaholics?

18.   Women are equals to men in every activity, including badminton. Its true that Khalid beat Saira, but he played like a woman and she played like a man.

The main problem with this argument is
A.   It is a biased toward feminism
B.   It assumes that Saira is the best woman badminton player
C.   It confuses people with playing styles
D.   It assumes that all women ought to play the same way
E.   It assumes that women are equal to men, and thus constitutes circular reasoning

19.   Many more people in Pakistan who eat betel nut from local shops develop lung cancer than do those who don't eat betel nut.
        In face of this evidence, how could a betel nut broker argue against the conclusion that betel nut cause lung cancer?
        A.   He could argue that many things might cause lung cancer.
        B.   He could argue that a single cause may be responsible both for the eating betel nut and for the cancer.
        C.   He could argue that people have the right to endanger themselves if they so choose.
        D.   He could argue that people who breathe die, yet no one accuses breathing of causing death.
        E.   He could argue that people will eat bête nut anyhow, regardless of the evidence.

20.   Leave behind the emotional aspects of civilization and come back with us to the real Pakistan:
        Still the land of nightingale, the horse, buffalo and Jasmine; still spacious sprawling, majestic. Experience the freedom and serenity still to be found in
        For this question, choose the completion that best fits the passage.
        A.   The natural wonders of our land
        B.   Our amazing urban centers
        C.   The wild jungles of Sindh
        D.   One's own subconscious
        E.   The sprawling cities of the great central Punjab

21.   Student Leader: If elected, I will try my best to effect those changes which I have been fighting for over the weeks. Together we can avoid bureaucratic scenario in the campus which have existed ever since my opponent took office. You all know what I stand for, and I call upon my honorable opponent to
        For this question, choose the completion that seems most appropriate for this passage.
        A.   Resign graciously
        B.   Make his position as clear
        C.   Stop lying to the public
        D.   Get our campus more financial aid
        E.   Join you in supporting me

22.   Since every kid I know likes candy, Asad must also like candy
        We must infer from the speaker's statement that
        A.   The speaker does not know many kids
        B.   Asad is a kid
        C.   Asad likes anything sweet
        D.   The speaker is good friend of Asad
        E.   The speaker saw Asad eat candy

23.   A complete dinner at Food Street in Khanewal costs Rs. 500. A similarly delicious dinner in
        Tabbak Tikka Shop costs Rs. 300. Tabbak has a greater net profit than the Food Street
        restaurant. The only explanation for this is that the restaurant in Food Steet is poorly managed.
        The author's argument would be weakened if attention were drawn to the fact that
        A.   The owner of the Food Street restaurant are known to be very greedy
        B.   Tabbak takes a loss on every dinner it sells
        C.   There is much higher overhead at the Food Steet restaurant
        D.   Tabbak uses low quality meats
        E.   At Tabbak, two drinks are included in the price of the meal

24.   Which of the following comes closest to being a factual statement?
        A.   Student: "Our whole political system is corrupt"
        B.   Doctor: "The price of petrol is bound to increase"
        C.   Accountant: "Cigarette smoking may be hazardous to your health
        D.   Carpenter: "These are the most comfortable chairs we make"
        E.   Coin collector: "Fewer than ten of these silver coins were minted in the year 1947."

25.   I.   All type of cigarettes cause cancer

         II.   "Dr. Nut" is the name of a new brand of cigarette

        We can infer from the above statements that
        A.   Cancer killed "Dr. Nut"
        B.   "Dr. Nut" causes cancer
        C.   Anyone with cancer takes "Dr. Nut"
        D.   Nobody who regularly smoke gets cancer
        E.   People with cancer prefer "Dr. Nut" over other cigarettes

MATHEMATICS:

Directions: For each question below you are given four choices. SELECT ANY ONE THAT IS MOST APPROPRIATE ANSWER

ALL ANSWER MUST BE GIVEN ON THE ANSWER SHEET.
YOUR ANSWERS MUST BE INDICATED BY LETTERS (A, B, C, D) AND NOT BY THE WORDS THEMSELVES.

1. Which of the following lists of physical quantities consists only of vectors:
   (a) Time, temperature, velocity
   (b) Force, volume, momentum
   (c) Velocity, acceleration, mass
   (d) Force, acceleration, velocity

2. If $(\vec{a} \times \vec{b})$ points along negative z-axis, then the vectors $\vec{a}$ and $\vec{b}$ must lie in
   (a) .zx-plane
   (b) .yx-plane
   (c) .xy-plane
   (d) None of the above

3. $k \times \hat{i} = \dots\dots$
   (a) j
   (b) $-j$
   (c) k
   (d) $-k$

4. What must be changing when a body is accelerating uniformly along a straight path?
   (a) The force acting on the body
   (b) The velocity of the body
   (c) The mass of the body
   (d) The speed of the body

5. The horizontal range of a projectile is maximum when it is thrown at what angle with a certain velocity?
   (a) 30^0
   (b) 45^0
   (c) 60^0
   (d) 90^0

6. A paratrooper jumping out of an airplane is an example of
   (a) Equilibrium
   (b) Static Equilibrium
   (c) Dynamic Equilibrium
   (d) None

7. The torque on a body will be zero if the angle between $\vec{r}$ and F is zero or:
   (a) 90^0
   (b) 180^0
   (c) 270^0
   (d) None

8. If we go away from the surface of the earth, a distance equal to the one third of the radius of the earth, the value of g will be multiplied by?
   (a) 1/2
   (b) 9/16
   (c) 1/9
   (d) 16/9

9. For certain values F and d, work done is zero when the angle between the force and displacement is:
   (a) 0^0
   (b) 30^0
   (c) 90^0
   (d) 180^0

10. The force acting on a body in the gravitational field at any point is equal to its:
    (a) Gravitational mass
    (b) Weight
    (c) Acceleration
    (d) Inertia

11. What is kinetic energy of a body of mass 10 kg moving with velocity $1m/s^2$?
    (a) 10 Joules
    (b) 20 Joules
    (c) 5 Joules
    (d) 2.5 Joules

12. Simple harmonic motion is mathematically represented as
    (a) $.a \,\alpha - x$
    (b) $.a \,\alpha\ x$
    (c) $V \,\alpha - x$
    (d) $F \,\alpha - x$

13. The frequency of second pendulum is

Career Channel News: www.entrytest.com/rss/default.aspx**(Meets your all Educational Needs)**
For Answers: www.entrytest.com/testprep/answers.aspx
Phone: +92 61 4550698   +92 61 814 3333   Page 10

(a)   1 hertz   (b)   2 hertz   (c)   0.5 hertz   (d)   None of the above

14. A body with frequency f would complete one vibration in

(a)   F seconds   (b) $\frac{1}{f}$ seconds   (c)   1 second   (d) $\frac{1}{T}$ seconds

15. The rate of evaporation depends upon:
   (a)   Nature of liquid
   (b)   The temperature of liquid and air
   (c)   The area of the exposed surface of the liquid
   (d)   All of the above

16. The saturated vapour pressure of a given liquids:
   (a)   Increases with rise in temperature
   (b)   Decreases with rise in temperature
   (c)   May increase or decrease with rise in temperature
   (d)   Remains unchanged with rise in temperature

17. Suppose the co-efficient of linear expansion of copper is 0.000156 per degree C. What will be the co-efficient of volume expansion of copper sphere per degree C?
   (a)   Same as that of linear expansion
   (b)   Two times as that of linear expansion
   (c)   Three times as that of linear expansion
   (d)   One half as that of linear expansion

18. Length of metal rod is 100 cm and co-efficient of linear expansion of metal is $0.00002 K^{-1}$ By how many centimeters will it contract when cooled through 50^0 C?
   (a)   1.001   (b)   0.150   (c)   0.001   (d)   0.01

19. The Coulomb force in a medium of relative permittivity ε_r is given by:

(a) $F^/ = \frac{\varepsilon_r}{F}$ (b) $F^/ = \frac{F}{\varepsilon_r}$ (c) $F^/ = F_{\varepsilon_r}$ (d) $F^/ = \frac{F}{\varepsilon_0 \varepsilon_r}$

20. Capacity of a capacitor depends upon.
   (a)   The distance between the plates
   (b)   The nature of the dielectric between the plates
   (c)   The size of the plates
   (d)   All of the above

21. The magnetic force F_m acting on charge q when it moves with a velocity v through a magnetic field B is given by
   (a) $F_m = q \, v \times B$ (b) $F_m = q \, v^2 \times B$ (c) $F_m = q \, v^3 \times B$ (d) $F_m = q \, v^4 \times B$

22. A substance which behaves like a magnet in the presence of a strong magnetic field is called
   (a)   Magnets   (b)   Ferro magnets   (c)   Electromagnets   (d)   None of the above

23. In a circuit , if a resistance of the conductor is increased then current in the circuit will:
   (a)   Increase   (b)   Decrease   (c)   Remain the same   (d)   First increase and then decrease

24. The phenomenon that the resistance of a metal falls exactly to zero at a few degrees above absolute zero is called:
   (a)   Conductivity   (b)   Low conductivity   (c)   Super-conductivity   (d)   Low resistivity

25. Why should a resistance be introduced in a circuit in series deliberately?

Career Channel News: www.entrytest.com/rss/default.aspx**(Meets your all Educational Needs)**
For Answers: www.entrytest.com/testprep/answers.aspx
Phone: +92 61 4550698   +92 61 814 3333   Page 11

(a) To increase current and decrease Voltage	(b) To decrease current and voltage	(c) To make current zero	(d) To make voltage zero

PHYSICS:

Directions: For each question below you are given four choices. SELECT ANY ONE THAT IS MOST APPROPRIATE ANSWER*ALL ANSWER MUST BE GIVEN ON THE ANSWER SHEET.* *YOUR ANSWERS MUST BE INDICATED BY LETTERS (A, B, C, D) AND NOT BY THE WORDS THEMSELVES.*

1. Einstein explained the photo-electric effect making the following assumption as a basis that,

   (a) The mass of the electrons increases
   (b) Light consists the photons or quanta
   (c) The energy of light increases with speed
   (d) The photo-electrons are identical with atomic electrons

2. An elevator initially accerlerates upward from rest and ascends with uniform speed. Time period of a simple pendulum in the elevator will,

   (a) Increase and then decrease
   (b) Decrease and then increase
   (c) Increase
   (d) Decrease

3. A simple arrangement by means of which e.m.f,s. are compared is known

   (a) Voltmeter
   (b) *Potentiometer*
   (c) Ammeter
   (d) None of the above

4. The physics underlying the operation of a refrigerator most closely resembles the physics underlying,

   (a) The freezing of water
   (b) The melting of ice
   (c) The evaporation of water
   (d) A heat engine

5. Let a certain body of mass 'm' placed on a horizontal surface move down the inclined plane then downward component of weight is

   (a) .mgCosθ
   (b) .mgSinθ
   (c) .mg Tanθ
   (d) None

6. The plane faces of two identical plano convex lens, each having focal length 40 cm are pressed against each other to form a usual convex lens. The distance from this lens at which an object must be placed to obtain a real, inverted image with magnification one is.

   (a) 40 cm
   (b) 80 cm
   (c) 20 cm
   (d) 60 cm

7. The law which gives definition of force is

   (a) Newton's law of gravitation
   (b) Third law of motion
   (c) Second law of motion
   (d) First law of motion

8. Hygrometer is an instrument used for measuring

    (a) The compression of water vapour with temperature
    (b) The amount of water vapour in the atmosphere
    (c) Specific gravity of air
    (d) The density of air

9. An inertial frame of reference is one whose:
    (a) Acceleration is zero
    (b) Velocity is changing with time
    (c) Acceleration is uniform
    (d) Inertia is not zero

10. A moving car whose engine is switched off. comes to rest after some time due to:

    (a) Inertia
    (b) Its mass
    (c) Friction
    (d) Earth's gravitation

11.
    (a) When two bodies separate instantaneously after collision, the collision is said to be perfectly elastic.
    (b) When to bodies separate instantaneously after collision, the collision is said to be perfectly inelastic

12. According to the second law of motion, acceleration is proportional to:
    (a) Fores
    (b) Time
    (c) Mass
    (d) Distance

14. When the object is placed at 2f of convex lens then the image formed behind the lens will be
    A) At the focus
    B) At 2f
    C) Beyond 2f
    D) Between f and 2f

15. When the object is placed at principal focus of a convex lens then the image is formed at

    A) Same distance
    B) Infinity
    C) Same side of lens
    D) Centre of curvature

16. Which one of the following cannot measure wavelength of X-rays in any way

    A) Bragg's law
    B) Diffraction grating
    C) Compton effect
    D) Photo electric effect

17. Which one of the following properties is not found in both sound and light
    A) Interference
    B) Diffraction
    C) Polarization
    D) Reflection

18. The relation between time period T and angular velocity ω is given by
    (a) $T = 2\pi\omega$
    (b) $T = \omega/2\pi$
    (c) $T = 2\pi/\omega$
    (d) $T = v\omega$

19. When a body moves in a circle, the angle between its linear velocity v and angular velocity ω is
    (a) 0^0
    (b) 45^0
    (c) 90^0
    (d) 180^0

20. Π radians =
    (a) 90^0
    (b) 180^0
    (c) 60^0
    (d) 30^0

21. In racing car moving along a circular path the friction at the wheels and banking of roads provides the

    (a) Centripetal Force
    (b) Centripetal Acceleration
    (c) Centre of Mass
    (d) Centrifugal Force

Career Channel News: www.entrytest.com/rss/default.aspx**(Meets your all Educational Needs)**
For Answers: www.entrytest.com/testprep/answers.aspx
Phone: +92 61 4550698   +92 61 814 3333
Page 13

22. The time period is defined as the time required to traverse ……… by a revolving body.
    (a) One radian   (b) 180 degrees   (c) One revolution   (d) 90 degrees

23. Which of the following particles can induce artificial radio-activity in certain nuclei?
    (a) α-particle   (b) β-particle   (c) γ-particle   (d) All of the above

24. Identify the alpha-particle?
    (a) $_1H^1$ (b) $_1H^2$ (c) $_1H^3$ (d) $_2He^4$

25. Which of the following particles move with velocity of light?
    (a) α-particle   (b) β-particle   (c) γ-particle   (d) All of the above

CHEMISTRY:

Directions: *For each question below you are given four choices. SELECT ANY ONE THAT IS MOST APPROPRIATE ANSWER*
      ALL ANSWER MUST BE GIVEN ON THE ANSWER SHEET.
      YOUR ANSWERS MUST BE INDICATED BY LETTERS (A, B, C, D) AND NOT BY THE WORDS THEMSELVES.

1. Spodumene is the mineral of
   (a) Lithium   (b) Sodium   (c) Potassium   (d) None

2. Indicate the most viscous liquids the following.
   (a) H_2O (b) CH_3OH (c) $CH_3CH_2OCH_2CH_3$ (d) CH_3OCH_3

3. In which of the following processes nitrogen is reduced?
   (a) $NO_2^- \rightarrow NO_3^-$ (b) $NO_2^- \rightarrow NO_2^-$ (c) $NO_2^- \rightarrow NO_3^-$ (d) $NH_4^+ \rightarrow N_2$

4. Which is not the mineral of Silicon
   (a) Analcite   (b) Asbestos
   (c) Dolomite   (d) Zircon

5. Substance that affects the rate of reaction but remains unaltered at the end of the reaction is called
   (a) Catalyst   (b) Acid   (c) Base   (d) None of the above

6. If one mole of solute is dissolved in one liter of solution, the solution is called
   (a) None of the following   (b) One molal   (c) One molar   (d) One normal

7. If one gram equivalent of a solute is dissolved in one liter of solution, the solution is called
   (a) One normal   (b) One molal   (c) One molar   (d) None of the above

8. At constant temperature, volume of a given mass of a gas is inversely proportional to pressure exerted on it is called
   (a) Coulomb's Law   (b) Boyle's Law   (c) General Gas Law   (d) Charles Law

9. Very small and very large quantities are expressed in terms of
   (a) Significant igures   (b) Logarithm   (c) None of these   (d) Exponential notation

10. The number of atoms or molecules whose concentration determine the rate of reaction is called
    (a) Molecularity   (b) Rate of reaction   (c) Order of reaction   (d) None of the above

11. Electrolytes which ionize to a very small extent in a solution are called
    (a) Neutral   (b) Weak electrolytes   (c) Strong electolytes   (d) None of the above

12. The change of concentration of reactants or products is called,
    (a) Order of reaction   (b) Rate of reaction   (c) Molecularity   (d) None of the above

13. Reactions which proceed in the forward direction and go to completion are called
    (a) Irreversible reaction   (b) Equilibrium reaction   (c) Reversible reaction   (d) None of the above

14. The substance through which electricity cannot flow in molten state or solution form is called,
    (a) Molecularity   (b) Conductor   (c) Electrolyte   (d) Non electrolyte

15. The law which states, "The amount of heat evolved or absorbed in a process in the same whether the process takes place in one or several steps is called
    (a) Newton's law   (b) First law of thermodynamics
    (c) Hess's law   (d) Law of conservation of energy

16. The amount of solute dissolved in 100g of solvent to form saturated solution at a given temperature is called,
    (a) Dissolution   (b) Solubility   (c) Solution   (d) None of the above

17. The theory which states that a molecule is a collection of positive nuclei surrounded by electrons distributed in bonding and antibonding molecular orbital of different energies is called,
    (a) None of the following   (b) V.B theory   (c) VSEPR theory   (d) M.O. theory

18. When a weak electrolyte is dissolved in water only a small amount o molecules is
    (a) Remains constant   (b) Ionized   (c) Deionized   (d) Increases

19. The mixture whose constitutes are 50% hydrogen, 35% methane and 8% carbon mono-oxide is
    (a) Coal gas   (b) Coultar   (c) Coke   (d) None of the above

Career Channel News: www.entrytest.com/rss/default.aspx**(Meets your all Educational Needs)**
For Answers: www.entrytest.com/testprep/answers.aspx
Phone: +92 61 4550698   +92 61 814 3333   Page 15

20. In common ion effect the degree of ionization is suppressed by the addition of

    (a) A compound   (b) Another electrolyte   (c) An element   (d) None of the above

21. The reaction in which heat is absorbed from the surrounding to the system is called

    (a) Endothermic reaction   (b) Fast reaction   (c) Slow reaction   (d) Exothermic reaction

22. The process in which solvent particles surround solute particles is called,
    (a) Hydration   (b) Hydrolysis   (c) Saturation   (d) Salvation

23. If one mole of solute dissolved in one Kg of solvent, the solution is called

    (a) One normal   (b) One molar   (c) One molar   (d) None of the above

24. Equilibrium involving reactants and products in more than one phase is called

    (a) Heterogeneous   (b) Hemogenouss   (c) Dynamic   (d) None of the above

25. Two double bonds are present between the atoms of the molecule
    (a) NH_3 (b) H_2O (c) CO_2 (d) H_2SO_4

END OF TEST

For Answer Key:
www.entrytest.com/testprep/answers.aspx

Career Channel News: www.entrytest.com/rs
For Answers: www.entrytest.com/testprep/an
Phone: +92 61 4550698   +92 61 814 3333

Page 16

Career Channel News: www.entrytest.com/rss/default.aspx**(Meets your all Educational Needs)**
For Answers: www.entrytest.com/testprep/answers.aspx
Phone: +92 61 4550698   +92 61 814 3333   Page 17