ARKA JAIN University – Jharkhand

AJU Common Entrance Test [AJU CET 2021] - **SAMPLE QUESTION PAPER**

Course: B. Tech [Lateral]

Time :……………………………   **Total Marks: ………**

Section – A [ENGLISH]

1.   They usually spend their holidays in _____ mountains.
        a. no article   b. a

        c. an   d. the

2.   I can't live on _____ 500 dollars a month.

        a. no article   b. a   c. an   d. the

3.   We_____ in Minsk since 1975.

        a.had been living   b. has been living

        c. have been living   d.are living

4.   By next December, I ____ for this company for 5 years.

        a. have been working   b. will had worked

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5.   Do not take any notice_____ him.
        a. about   b. on

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Section – B [Physics]

1.   Which of these rays have the highest ionising power?

     (a) Beta   (b) Alpha
     (c) Gamma   (d) All have the same

2. Which of the following is the mirror formula?

     (a) v + u =f   (b) 1/v + 1/u = 1/f
     (c) 1/v + 1/u = f   (d) None of the above

3. Which of the following principles is used to define the First law of Thermodynamics?

     (a) Conservation of mass   (b) Conservation of energy
     (c) Conservation of momentum   (d) Conservation of charge

4. How many joules are there in one calorie?

     (a) 3.186 J   (b) 4.186 J
     (c) 5.186 J   (d) 6.186 J

5. What is the S.I. unit of power of a lens?

(a) Metre   (b) Watt
(c) Dioptre   (d) Second

Section – C [Chemistry]

1. The total number of periods in the periodic table is

(a) 6   (b) 7
(c) 8   (d) 9

2. P1V1/T1 = P2V2/T2

(a) Combined gas law   (b) Charle's law
(c) Boyle's law   (d) None

3. Bronsted-Lowery theory, an acid is a

(a) Proton acceptor   (b) Electron acceptor

(c) Proton donor   (d) Electron donor

4. Which one of the following is used as common salt

(a) NaCl   (b) NaOH
(c) $NaHCO_3$ (d) Na_2CO_3

5. The oxidation number of O in CaO_2 is

(a) +2   (b) -2
(c) -1   (d) 0

Section – D [Math]

1. If two positive integers a and b are written as a = p^3q^2 and b = pq^3; p, q are prime numbers, then HCF (a, b) is:

(A) pq   (B) pq^2 (C) p^3q^3 (D) p^2q^2

2. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is

(A) 13   (B) 65   (C) 875   (D) 1750

3. A rectangular field has an area of 3 sq. units. The length is one more than twice the breadth 'x'. Frame an equation to represent this.

A) x2 – 2x+6=0   B) x2 – 2x+3=0   C)2x2+x–3=0   D)2x2+x–6=0

4. The square of (5x + 1) is equal to 16. What is x?

A) x = 4, ¼   B)x =- 1,3/5   C)x = 1,3/2   D)x= -1, 4/5

5. If the third and the ninth terms of an AP are 4 and -8 respectively, which term of this AP is zero?

A) 5th   B)4th   C) 3rd   D) 6th

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Course: Polytechnic lateral

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Section – B [Logical Reasoning]

1. Sita told Gita, "The girl I met yesterday at the beach was the youngest brother of the brother-in-law of my friend's mother." How is the girl related to Sita's friend?
    a.   Cousin   b.   sister

    c.   Friend   d.   Niece

2. Based on the given statement and few conclusions, choose the right statement which gives the correct conclusions.
    Statements:
    Some apples are oranges.
    All oranges are grapes.
    Some grapes are lichis.
    No pine is orang

    Conclusions:
    I. All pines being grapes is a possibility
    II. All apples being pines is a possibility
    III. No orange is lichi.

    a. Only I & III follow   b. Only I follow

    c. Only II follows   d. None of the above

3. Eight friends A, B, C, D, E, F, G and H are sitting in circular arrangements. E is fourth to the right of B. A is to the third right of E. D is between A and F. C is fourth to the left of A. H is between G and C. Who is seated immediately next to A ?

   a. G
   b. C
   c. B
   d. H

4. Among the six persons A,B,C,D,E and F each have different weight.C is lighter than only A. D is heavier than 3 persons, E is lighter than F. The second heaviest person is of 74 kg and the second lightest person is of 41 kg. E is not the lightest. After arranging the person in ascending order of their weight find the person who comes immediately after E.

   a. B
   b. D
   c. C
   d. F

5. Study the following information carefully and answer the questions given below-
   A + B means A is brother of B
   A - B means A is father of B
   A * B means A is uncle of B
   A / B means A is sister of B

   From the given expression P - Q + R / S which of the following is true?

   a. P is the aunt of S
   b. P is the son of S
   c. P is the uncle of S
   d. none of the above

Section – C [Mathematics]

1. For some integer m, every odd integer is of the form

   (A) m
   (B) m + 1
   (C) 2m
   (D) 2m + 1

2. The product of a non-zero number and an irrational number is:

   (A).Always irrational
   (B) Always rational
   (C) Rational or irrational
   (D) One

3. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is

   (A) 13
   (B) 65
   (C) 875
   (D) 1750

4. The H.C.F of 441, 567 and 693 is

   (A) 1
   (B) 441
   (C) 126
   (D) 63

5. If α,β are the zeros of the polynomial, $x^2-px +36$ and $\alpha^2 + \beta^2 = 9$, then what is the value of p?

   A) 6
   B) 3
   C) 9
   D) 8

Section – D [Science]

1. The nucleus of an atom consists of

   (a) Electrons and neutrons   (b) Electrons and protons

   (c) Protons and neutrons   (d) All of the above

2. The number of moles of solute present in 1 kg of a solvent is called its

   (a) Molality   (b) Molarity

   (c) Normality   (d) Formality

3. The most electronegative element among the following is

   (a) Sodium   (b) Bromine

   (c) Fluorine   (d) Oxygen

4. Ohm is a unit of measuring

   (a) Resistance   (b) Voltage

   (c) Current   (d) None of the above

5. Which of the following pairs represent two scalar quantities?

   (a) Mass, Acceleration   (b) Distance, Speed

   (c) Temperature, Torque   (d) Gravitational Intensity, Work

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Course: **MBA**

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Section – A [ENGLISH]

Choose the word/group of words which is most OPPOSITE in meaning of the word printed in bold as used in the passage. [Choose the correct option i. e (a , b, c, d)]

1. Enormous :
    a. Gignatic
    b. Huge
    c. Insignificant
    d. Meticulous

2. **Transparency**:
    a. Clarity
    b. Fairness
    c. Dullness
    d. Concealment

3. **IGNITE:**
    a. Clarity
    b. Fairness
    c. Dullness
    d. Concealment

In these questions, choose the word from the alternatives (a), (b), (c) and (d) that is similar in meaning to the word given in capital letters.

4. **GIST:**
    a. Contribution
    b. Substance
    c. Prestige
    d. Accessory

5. **SOLICITOUS:**
    a. Nonchalant
    b. Firm
    c. Reverential
    d. Worried

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Section – C [Quantitative Aptitude]

1. The marked price of an article for sale is 20% of its cost price. How much percent does the dealer gain by allowing a discount of 15%?
   a) 5%   b) 7%   c) 10%   d) 6.25%

2. A shopkeeper allows a discount of 22.5% on the marked price of a certain article and makes a profit of 40%. If the article costs the shopkeeper Rs.155, then the marked price of the article will be:
   a) 380   b) 280   c) 480   d) 180

3. The Simple Interest on Rs.5000 in 4 years @ y% p.a. equals the Simple Interest on Rs.8000 @ 10% p.a. in 2 years. Find the value of y.
   a) 4%   b) 16%   c) 32%   d) 8%

4. If x distance is covered at speed and half of this distance is covered in double the time. Then find the ratio of the two speeds.
   a) 2 : 1   b) 4 : 1   c) 3 : 1   d) 1 : 1

5. If a bus travels at 20 km/hr, it reaches the destination late by 11 minutes. But if it runs at 25 km/hr, it reaches late only by 5 minutes. Find the exact time in which the bus will complete the journey without getting late?
   a) 19 minutes b) 20 minutes c) 16 minutes d) 21 minutes