



BIOLOGY MDCAT

UNIT-10 (A⁺ Series)

TOPICS:

✓ Variations and Genetics/Inheritance

✓ Evolution

- Q.1 Mendel produced _____ true breeding line/s for seed colour and seed shape.
A. 1
B. 2
C. 4
D. 14
- Q.2 The trait which disappeared in F₁ monohybrid pea plants was named by Mendel as:
A. Dominant
B. Recessive
C. Co-dominant
D. Incompletely dominant
- Q.3 It is an example of recessive trait in *P. sativum*:
A. Round seed shape
B. Yellow pod color
C. Purple flower colour
D. Yellow seed color
- Q.4 'Dd' actually represents the:
A. Genotype
B. Genome
C. Gene pool
D. Phenotype
- Q.5 In monohybrid cross made by Mendel, cross fertilization involved:
A. P₁ x P₁
B. F₁ x F₁
C. F₁ x F₂
D. F₂ x F₂
- Q.6 Which of the following is a true test cross?
A. RRYY x Rryy
B. RrYy x rryy
C. RrYY x rrYy
D. rrYY x rrYy
- Q.7 Which of the following genotype represents a pure breeding individual?
A. RrYy
B. RRYY
C. rrYy
D. RRyy
- Q.8 The number of linkage groups in *Pisum sativum* is/are:
A. 4
B. 7
C. 11
D. 14
- Q.9 G. Mendel did not observe:
A. Independent assortment
B. Segregation
C. Linkage
D. Dominance
- Q.10 A pure tall plant and a pure dwarf plant were crossed to produce offsprings. If offspring were self-crossed, then find the ratio between true breeding tall to true breeding dwarf:
A. 1:1
B. 1:2
C. 1:3
D. 1:2:1
- Q.11 Back cross involves:
A. Crossing between the two parents
B. Crossing between two F₁ hybrids
C. Crossing between two hybrids in F₂
D. Crossing between F₁ hybrid with either of the parents
- Q.12 Most human cells have _____ copies of genome.
A. 3
B. 2
C. 4
D. Multiple of 2
- Q.13 Which is not true for ABO blood group system in humans?
A. Is an example of multiple alleles
B. Shows both co-dominance and complete dominance
C. Is an example of crossing over
D. Shows four different phenotypes
- Q.14 If both parents with blood group 'A' and 'B' are having a child with blood group O, then what is genotype of his/her father?
A. I^AI^A
B. I^Ai
C. I^AI^B
D. ii



- Q.15** ABO blood group is found in:
 A. Man
 B. Bonobo
 C. Chimpanzee
 D. All A, B, C
- Q.16** How many alleles of polymorphic gene 'I' may be found in an individual at the maximum?
 A. 1
 B. 2
 C. 3
 D. 4
- Q.17** Among the following animals, the maximum number of linkage groups are found in:
 A. Chimpanzee
 B. Frog
 C. Man
 D. *Drosophila*
- Q.18** Pseudoautosomal genes are found on:
 A. X-chromosome only
 B. Y-chromosome only
 C. Both X and Y-chromosomes
 D. Autosomes
- Q.19** Anti-A and anti-B antibodies of ABO blood group system are produced:
 A. Before birth
 B. At the time of birth
 C. At puberty
 D. After birth
- Q.20** If the fetus is Rh⁺ and mother is Rh⁻ then fetus:
 A. Will transmit antigen to mother's blood
 B. Is attacked by antigen to mother's blood
 C. Will transmit antibodies to mother's body
 D. Is attacked by antibodies to mother's blood
- Q.21** How many genotypes can be predicted from a cross between AABBCc and aabbcc?
 A. 9
 B. 64
 C. 1
 D. 16
- Q.22** Which of the following option is true for hemophilia 'C'?
 A. Results due to abnormality of factor IX
 B. Autosomal recessive
 C. Most abundant
 D. Affects men more
- Q.23** A holandric gene is expressed in:
 A. Males only
 B. Only in homozygous form
 C. Male and female both
 D. Both in homozygous or heterozygous form
- Q.24** Which is not related to multiple alleles?
 A. Present all alleles in single individual
 B. Present at same locus
 C. Not explained by Mendel
 D. Produce due to mutation
- Q.25** X-linked recessive traits follow which of the following pathway?
 A. Zig-zag pathway
 B. Straight pathway
 C. Circular pathway
 D. Linear pathway
- Q.26** 15 unit map distance is equal to _____ percentage recombination frequency.
 A. 10
 B. 15
 C. 30
 D. 150
- Q.27** Maximum number of multiple allele/s of ABO blood group found in an egg is/are:
 A. 1
 B. 2
 C. 3
 D. Multiple
- Q.28** In F₂ generation, the genotypic ratio is different than phenotypic ratio in:
 A. Complete dominance
 B. Co-dominance
 C. Incomplete dominance
 D. Over dominance
- Q.29** When true breeding individuals for seed shape and seed color breed, they produce _____ type/s of phenotype/s and _____ genotype/s in F₁ generation, respectively.
 A. 1, 1
 B. 2, 5
 C. 4, 9
 D. 9, 16
- Q.30** T. H. Morgan made the first demonstration of a sex-linked trait in:
 A. 1910
 B. 1920
 C. 1930
 D. 1941
- Q.31** T. H. Morgan's classical experiments on *Drosophila* proved that:
 A. Linked genes do not allow crossing over
 B. Chromosomes play important role in inheritance
 C. Genes are present on chromosomes
 D. All A, B, C



- Q.32 Pick the odd one out for a human sex linked disorder:**
A. Androgen insensitivity syndrome B. Testicular feminization syndrome
C. Diabetes mellitus D. Holandric traits
- Q.33 Mode of inheritance in humans can be studied through:**
A. Genetic recombination B. Pedigree analysis
C. Crossing over D. Evolution
- Q.34 In humans, the genes for sickle cell anemia, leukemia, and albinism are located on:**
A. Autosome No. 22 B. Autosome No. 11
C. X-chromosome D. Y-chromosome
- Q.35 Alleles for which of the following blood group are always expressed in homozygous condition?**
A. Blood group 'A' B. Blood group 'B'
C. Blood group 'O' D. Blood group 'AB'
- Q.36 Crossing over involves:**
A. Duplication of chromosomes B. Exchange of genetic material
C. Addition of chromosomes D. Deletion of chromosomes
- Q.37 Females are affected more by:**
A. Hemophilia 'A' B. Hypophosphatemia
C. Colour blindness D. Hemophilia 'B'
- Q.38 Organic evolution was defined as 'Descent with Modification' by:**
A. C. Darwin B. J. de Lamarck
C. L. Margulis D. C. Linnaeus
- Q.39 Life on earth began approximately _____ years ago.**
A. 1.5 billion B. 2.5 billion
C. 3.5 million D. 3.5 billion
- Q.40 The oldest fossils belong to:**
A. Viruses B. Archaeobacteria
C. Eubacteria D. Cyanobacteria
- Q.41 According to endosymbiotic theory, the flagella may have originated through:**
A. *H. influenzae* B. *Spirochete*
C. *Bacilli* D. *Coccobacilli*
- Q.42 The smallest biological unit that can evolve over time is:**
A. An individual organism B. A population
C. A species D. An ecosystem
- Q.43 Which one of the following is not related to Lamarckism?**
A. Disuse of organs B. Use of organs
C. Survival of the fittest D. Inheritance of acquired characters
- Q.44 It represents an example of convergent evolution:**
A. Wings of bird and insect B. Forelimb of man and cat
C. Forelimb of bird and frog D. Hind limb of man and frog
- Q.45 Theory of uniformitarianism was presented by:**
A. Charles Lyell B. James Hutton
C. Alfred R. Wallace D. Thomas R Malthus
- Q.46 Which of the following point is common between Lamarckism and Darwinism?**
A. Role of genes B. Role of crossing over
C. Role of environment D. Over production
- Q.47 _____ of _____ during photosynthesis led to development of ozone.**
A. Use, oxygen B. Release, CO₂
C. Use, water D. Release, sulphur
- Q.48 What is true about membrane invagination hypothesis?**
A. Multiple DNA replications B. Engulfment of aerobic bacteria
C. Engulfment of cyanobacteria D. Release of DNA into atmosphere
- Q.49 An idea presented by Lamarck which was more objectionable:**
A. Use and disuse of organs B. Inheritance of acquired characters
C. Occurrence of evolution D. Role of environment in evolution



- Q.50** Endosymbiont hypothesis explains the origin of:
A. *Mycoplasma* B. Eukaryotic cell
C. Prokaryotic cell D. Bacterial cell
- Q.51** Who pictured the evolution as a 'ladder of life'?
A. Charles Darwin B. J. B. de Lamarck
C. James Hutton D. Thomas Malthus
- Q.52** The evolutionary process through which **analogous organs have evolved**:
A. Divergent evolution B. Convergent evolution
C. Dispersive evolution D. Disruptive evolution
- Q.53** Lamarck's theory of inheritance was disproved experimentally by:
A. K. Correns B. C. Mendel
C. A. Weismann D. H. de vries
- Q.54** Galapagos islands were known for their:
A. Giant tortoises B. Small sized fishes
C. Colorful flowers D. Sparrows
- Q.55** A connection between Mendelism with mechanism of evolution (natural selection) was developed and is known as:
A. Darwinism B. Neo-Darwinism
C. Lamarekism D. Eugenics
- Q.56** Biogeography is the geographical distribution of:
A. Species B. Phylum
C. Classes D. Genera
- Q.57** The reptiles have directly evolved from:
A. Fishes B. Amphibians
C. Birds D. Mammals
- Q.58** What is **not related to Lamarekism**?
A. Organisms undergo changes B. Environment's role
C. Genetic variations among individuals D. Inheritance of acquired characters
- Q.59** Comparative anatomy supports that the evolution is a _____ process.
A. Modelling B. Remodeling
C. Regenerative D. Challenging
- Q.60** It is the study of evolutionary history:
A. Ontogeny B. Phylogeny
C. Taxonomy D. Embryology

A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	46	<input type="radio"/>	<input type="radio"/>	
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	47	<input type="radio"/>	<input type="radio"/>	
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	48	<input type="radio"/>	<input type="radio"/>	
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	49	<input type="radio"/>	<input type="radio"/>	
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50	<input type="radio"/>	<input type="radio"/>	
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	51	<input type="radio"/>	<input type="radio"/>	
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	52	<input type="radio"/>	<input type="radio"/>	
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	53	<input type="radio"/>	<input type="radio"/>	
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	39	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	54	<input type="radio"/>	<input type="radio"/>	
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	55	<input type="radio"/>	<input type="radio"/>	
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	41	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	56	<input type="radio"/>	<input type="radio"/>	
12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	57	<input type="radio"/>	<input type="radio"/>	
13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	58	<input type="radio"/>	<input type="radio"/>	
14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	59	<input type="radio"/>	<input type="radio"/>	
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	60	<input type="radio"/>	<input type="radio"/>	

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2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

1. Use Blue Ball Point Pen Only.
2. Please Fill In The Roll No. Correctly.
3. It Is Important That The Circle Is Filled Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ✓

Incorrect Examples: X
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SUBJECT: Bio CH/UNIT# 10

NAME: _____

R. NO. (IN WORDS): _____

CLASS: _____ SESSION: _____

SIGN: _____ DATE: _____



PHYSICS MDCAT

UNIT-10 (A+ SERIES)

TOPICS:

✓ **Atomic Spectra**

✓ **Nuclear Physics**

- Q.1 Tick the series lies in infra-red region:
 A. Paschen series
 B. Pfund series
 C. Brackett series
 D. All of the above
- Q.2 How many types of Quarks _____ are there?
 A. 2
 B. 6
 C. 8
 D. 10
- Q.3 Nuclear forces exist between
 A. neutron – neutron
 B. proton – proton
 C. neutron – proton
 D. All of these
- Q.4 The decay constant of the end product of radioactive series is
 A. Zero
 B. Infinity
 C. 1/2
 D. Less than 1
- Q.5 A radioactive nucleus emits a beta particle. The parent and daughter nuclei are
 A. Isotopes
 B. Isomers
 C. Isotones
 D. Isobars
- Q.6 The equation of Rydberg constant is given by:
 A. $R_H = \frac{h_0}{m^0}$
 B. $R_H = \frac{E_0}{\lambda}$
 C. $R_H = \frac{E_0}{hc}$
 D. $R_H = \frac{1}{he}$
- Q.7 Paschen series is obtained when all the transitions of electron terminate on.
 A. 2nd orbit
 B. 4th orbit
 C. 3rd orbit
 D. 5th orbit
- Q.8 1 milli Curie of radioactivity is equal to
 A. 1 micro Becquerel
 B. 3.7×10^7 Becquerel
 C. 3.7×10^2 Becquerel
 D. 3.7×10^4 Becquerel
- Q.9 γ - radiation are emitted due to
 A. De-excitation of atom
 B. De-excitation of nucleus
 C. Excitation of atom
 D. Excitation of nucleus
- Q.10 Half-life of radon gas is
 A. 1620years
 B. 23.5 minutes
 C. 3.8 days
 D. 4.5×10^9 years
- Q.11 The expression for the radius of the nth circular allowed orbit in the hydrogen atom is
 A. $r_n = n^2 r_0$
 B. $r_n = nr_0$
 C. $r_n = n^2 / r_0$
 D. $r_n = n / r_0$
- Q.12 Cancerous tissue in a thyroid gland can be detected by the intake of
 A. Radio iodine
 B. Radio carbon
 C. Radio sodium
 D. Radlo phosphors
- Q.13 The half-life of ^{210}Bi is 5 days, if we start with 50, 000 atoms of this isotopes, the number of atoms left over after 10 days is
 A. 50,000
 B. 25,000
 C. 12,500
 D. 20,000
- Q.14 The radiations emitted from hydrogen filled discharge tube shows:
 A. Continuous spectrum
 B. Band spectrum
 C. Line spectrum
 D. None of these
- Q.15 The half-life of polonium is 140 days. After how many days, 16 gm polonium will be reduced to 1 gm (or 15g will decay)
 A. 700 days
 B. 280 days
 C. 560 days
 D. 420 days
- Q.16 The decay rate is defined as
 A. Decay per second
 B. Decay of atoms
 C. Decayed no. of atoms
 D. Un-decayed no. of atoms



- Q.17 The quark named strange (s) having the charge of
 A. $+2/3$ B. $-2/3$
 C. $+1/3$ D. $-1/3$
- Q.18 An atom with mass number A_1 converts into another with mass number A_2 after radioactive decay. The correct statement is
 A. A_2 can never be equal to A_1
 B. The value of A_2 will not be more than that of A_1
 C. The value A_1 will be less than A_2
 D. The value of A_1 will not be more than that of A_2
- Q.19 With the increase in quantum number the energy difference between consecutive energy levels
 A. Remains constant B. Decreases
 C. Increases D. Sometimes increases sometimes decreases
- Q.20 Shortest wavelength photon in the Balmer series is
 A. $\frac{4}{R}$ B. $\frac{R}{4}$ C. $\frac{1}{4}$ D. 4
- Q.21 An electron jumps from the 4th orbit to the 2nd orbit of hydrogen atom. Given the Rydberg's constant $R = 10^5 \text{ cm}^{-1}$. The frequency in Hz of the emitted radiation will be
 A. $\frac{3}{16} \times 10^5$ B. $\frac{3}{16} \times 10^{15}$ C. $\frac{9}{16} \times 10^{15}$ D. $\frac{3}{4} \times 10^{15}$
- Q.22 If an electron jumps from 1st orbital to 3rd orbital, then it will.
 A. Absorb energy B. Release energy
 C. No gain of energy D. None of these
- Q.23 Which two nuclei contain the same number of neutrons?
 A. ${}^{12}_6\text{C}$ and ${}^{14}_6\text{C}$ B. ${}^{23}_{11}\text{Na}$ and ${}^{24}_{12}\text{Mg}$
 C. ${}^{16}_7\text{N}$ and ${}^{15}_8\text{O}$ D. ${}^{32}_{14}\text{Si}$ and ${}^{32}_{15}\text{P}$
- Q.24 When a nucleus with atomic number Z and mass number A undergoes a radioactive decay process,
 A. Both Z and A will decrease, if the process is α decay
 B. Z will increase but A will not change, if the process is β^- decay.
 C. Z will decrease but A will not change, if the process is β^+ decay
 D. All of these
- Q.25 The number of protons in any atom are always equal to the number of:
 A. Neutrons B. Positrons
 C. Electrons D. Mesons
- Q.26 For Balmer series $\frac{\lambda_{\max}}{\lambda_{\min}} =$
 A. 5/9 B. 1/9 C. $\frac{3}{4}$ D. 9/5
- Q.27 To ionize hydrogen atom from its ground state energy required is
 A. 13.6 eV B. -13.6 eV
 C. 3.4 eV D. -3.4 eV
- Q.28 Which series is emitted when electron jumps from a higher orbit to fifth orbit?
 A. Lyman B. Balmer
 C. Pfund D. Brackett
- Q.29 The ionization energy of hydrogen atom is 13.6eV. Following Bohr's theory, the energy corresponding to a transition between 3rd and 4th orbit is
 A. 3.40eV B. 1.51eV
 C. 0.85eV D. 0.66eV
- Q.30 The ground state energy of H-atom is 13.6 eV. The energy needed to ionize H-atom from its second excited state is
 A. 3.40eV B. 1.51eV C. 13.6eV D. 12.1eV
- Q.31 Hydrogen atom emits blue light when it changes from $n=4$ energy level to $n=2$ level. Which colour of light would the atom emit when it changes from $n=5$ level to $n=2$ level
 A. Red B. Yellow
 C. Violet D. Green



- Q.32 The ratio of the energies of the hydrogen atom in the first and the second excited states is
 A. 1 : 4
 B. 4 : 9
 C. 4 : 1
 D. 9 : 4
- Q.33 Example of somatic effects are
 A. Skin burn
 B. Loss of hair
 C. Drop in the white blood cells
 D. All of these
- Q.34 ${}_{92}\text{U}^{238}$ nucleus emits two α -particles and two β -particles and transforms into a thorium nucleus. Which of the following is the mass number and atomic number of the thorium nucleus so produced?
 A. 230, 90
 B. 234, 90
 C. 230, 88
 D. 234, 88
- Q.35 The decay constant of radium is 4.28×10^{-4} per year. Its half-life will be
 A. 1240 years
 B. 2000 years
 C. 1620 years
 D. 63 years
- Q.36 The half-life of the isotope ${}_{11}^{24}\text{Na}$ is 15 hours. How much times does it take for $\frac{7}{8}$ th of a sample of this isotope to decay?
 A. 75 h
 B. 65 h
 C. 55 h
 D. 45 h
- Q.37 If T is the half-life of a radioactive material, then the fraction that would remain after a time $\frac{T}{2}$ is
 A. $\frac{1}{2}$
 B. $\frac{3}{4}$
 C. $\frac{1}{\sqrt{2}}$
 D. $\frac{\sqrt{2}-1}{\sqrt{2}}$
- Q.38 The electric P.E of an electron in an orbit at a distance r_n from the positive charge
 A. Ke^2/r_n
 B. Ke^2/r_n^2
 C. $-Ke^2/r_n$
 D. Ke^2/r_n
- Q.39 Sterilization of surgical instruments medical supplies and bandages can be done by exposing them to a beam of
 A. α -rays
 B. β -rays
 C. γ -rays
 D. B and C have equal antiseptic properties
- Q.40 Deuterium is the most common isotope of hydrogen. How many neutrons does it have?
 A. 4
 B. 3
 C. 2
 D. 1
- Q.41 Which of the following will be absorbed by the paper?
 A. Alpha particle
 B. Beta particle
 C. Gamma rays
 D. X-rays
- Q.42 The velocity of electrons revolving around hydrogen nucleus is directly proportional to (n = principle quantum number)
 A. n
 B. n^2
 C. $\frac{1}{n}$
 D. $\frac{1}{n^2}$
- Q.43 In which sequence the radioactive radiations are emitted in the following nuclear reaction?

$$X_Z^A \rightarrow Y_{Z+1}^A \rightarrow K_{Z-1}^{A-4} \rightarrow K_{Z-1}^{A-4}$$

 A. α , β and γ
 B. β , α and γ
 C. β , γ and α
 D. γ , α and β
- Q.44 In an α -decay
 A. The parent and daughter nuclei have same number of protons
 B. The daughter nucleus has two protons less than parent nucleus
 C. The daughter nucleus has one proton more than parent nucleus
 D. The daughter nucleus has two neutrons more than parent nucleus
- Q.45 A thorium nucleus is formed when a uranium nucleus emits an α -particle. Atomic number of thorium is
 A. 92
 B. 90
 C. 82
 D. 94



- Q.46** The radioactive nuclide ${}_{86}\text{Ra}^{228}$ decays by series of emission of three α -particle and one β -particle, the nuclei X finally formed is
 A. ${}_{84}\text{X}^{220}$ B. ${}_{86}\text{X}^{222}$
 C. ${}_{81}\text{X}^{216}$ D. ${}_{88}\text{X}^{215}$
- Q.47** Doses of _____ will cause radiation burns to the skin
 A. 2Sv B. 4Sv
 C. 3Sv D. 5Sv
- Q.48** The unit of decay constant is:
 A. sec B. sec^{-3}
 C. sec^{-2} D. sec^{-1}
- Q.49** Energy of an electron in hydrogen atom is
 A. Less than zero B. Greater than zero
 C. Zero D. Positive
- Q.50** The total energy of the electron in the first excited state of an hydrogen atom is -3.4 eV. The potential energy of the electron in this state is
 A. -3.4 eV B. 3.4 eV
 C. -6.8 eV D. 6.8 eV
- Q.51** An α -particle incident on a nuclide X produces nuclide Y and two β -particles

$${}_{37}\text{X}^{88} + {}_2\text{He}^4 \longrightarrow {}_y\text{Y}^x + 2\text{}_{-1}\beta^0$$
 which is correct
 A. $x = 90, y = 39$ B. $x = 92, y = 39$
 C. $x = 92, y = 41$ D. $x = 90, y = 38$
- Q.52** The nuclei ${}_{6}\text{C}^{13}$ and ${}_{7}\text{N}^{14}$ can be described as:
 A. Isotones B. Isobars
 C. Isotopes of carbon D. Isotopes of nitrogen
- Q.53** If the radioactive decay constant of radium is 1.07×10^{-4} per year, then its half-life period is approximately equal to
 A. 8,900 years B. 7,000 years
 C. 6,476 years D. 2,520 years
- Q.54** An electron of hydrogen is present in the 3.4 eV energy state. Find the angular momentum of the electron.
 A. $\frac{2h}{\pi}$ B. $\frac{h}{\pi}$ C. $\frac{3h}{2\pi}$ D. $\frac{4h}{\pi}$
- Q.55** If 20 g of a radioactive substance reduces to 10 g in 4 minutes, then in what time will 80 g of the same substance reduce to 10 g?
 A. 8 min B. 12 min
 C. 16 min D. 20 min
- Q.56** Different radioactive materials have
 A. Same half-life B. Different half life
 C. Same total life D. Both B & C
- Q.57** Emission of a neutrino is occupied by the emission of:
 A. α^+ B. β^- C. β^+ D. All of these
- Q.58** When an animal dies each gram of carbon in its body emits about 16β particles each minute. Each gram of carbon from same animal remains is found to emit 4β particles per minute. How old is the animal (Half-life of radioactive carbon is 6000 years)?
 A. 3000 years B. 6000 years
 C. 12000 years D. 18000 years
- Q.59** If the half-life of a radioactive material is 100 days, then its half-life after 10 days will become:
 A. 50 days B. 200 days
 C. 400 days D. 100 days
- Q.60** An alpha particle in a single encounter
 A. Loses a small fraction of its energy B. Losses most of its energy
 C. Loses no energy at all D. Loses all of its energy

$$v = \frac{2\pi ke}{nh}$$

$$\lambda_{\text{max}} = \frac{P}{R}$$

$$\frac{m}{m_0} = \left(\frac{1}{2}\right)^n$$

$$t = n T_{1/2}$$

$$\frac{1}{\lambda} = R_H \left(\frac{1}{p^2} - \frac{1}{n^2} \right)$$

$$T_{1/2} = \frac{0.69}{\lambda}$$



Class Test

half-life remains constant by changing $t_{1/2}$.

1. Use Blue Ball Point Pen Only.
2. Please Fill In The Roll No. Correctly.
3. It is Important That The Circle is Filled Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ✓

Incorrect Examples: X
 X
 X

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SUBJECT: Physics CH/UNIT# 10

NAME: _____

R. NO. (IN WORDS): _____

CLASS: _____ SESSION: _____

SIGN: _____ DATE: _____

$$\frac{507000}{1/4}$$

$$n = \frac{t}{T_{1/2}}$$

$$= \frac{10}{5} = 2$$

CHEMISTRY MDCAT

UNIT-10 (A + SERIES)

DPIC:-

✓ CARBOXYLIC ACIDS

✓ MACROMOLECULE

1. The acid with strongest conjugate base is
 A. $\text{CH}_3\text{CH}_2\text{COOH}$ B. $\text{CH}_2\text{ClCH}_2\text{COOH}$
 C. CCl_3COOH D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
2. Which of the following acids has greater melting point
 A. Butyric acid B. Propanoic acid
 C. iso-Butyric acid D. Succinic acid
3. IUPAC name of Glutaric acid is
 A. Pentan-1,5-dioic acid B. Pentane dicarboxylic acid
 C. Ethane dioic acid D. Propane dioic acid
4. Alkane nitriles on acid hydrolysis produce carboxylic acids through the formation of
 A. Acid halides B. Acid amides
 C. Ammonium salts of carboxylic acids D. Amino acids
5. Which of the following carboxylic acid has Lowest pH value
 A. Butyric acid B. Acetic acid
 C. Pentanoic acid D. Oxalic acid
6. Mechanism of which reaction involves proton shift in an intermediate?
 A. Esterification B. Amide formation
 C. Both A and B D. Acid halide formation
7. The reaction that does not result in the formation of salt of fatty acid is?
 A. Reaction of carboxylic acid with PCl_5 B. Reaction of ester with NaOH
 C. Reaction of acetic acid with Na D. Reaction of Acetic acid with Soda ash
8. Which derivative of carboxylic acids is widely used in food industry
 A. Acetic acid B. Acid anhydride
 C. Ester D. Acid halide
9. The most stable derivative of carboxylic acids is?
 A. $\text{CH}_3\text{COOC}_2\text{H}_5$ B. CH_3COCl
 C. CH_3COOH D. CH_3CONH_2
10. In esterification reaction alcohol acts as
 A. Electrophile B. Free radical
 C. OH donor D. Nucleophile
11. The reaction of Propanoic acid with Thionyl chloride is example of _____ reaction
 A. Electrophilic substitution B. Nucleophilic substitution
 C. Nucleophilic addition D. Complete reduction
12. Which of the following reaction of carboxylic acid produces the most reactive carboxylic acid derivative?
 A. Reaction with PCl_5 B. Reaction with Ethanol
 C. Salt formation D. Reaction with NH_3
13. A food chemist wants to create the odour of pineapple for a product. An ester with this odour has the formula $\text{C}_3\text{H}_7\text{CO}_2\text{C}_2\text{H}_5$. The reactants are.
 A. $\text{C}_2\text{H}_5\text{Cl}$ and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$ B. $\text{C}_2\text{H}_5\text{OH}$ and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$
 C. CH_3OH and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$ D. $\text{C}_3\text{H}_7\text{OH}$ and $\text{C}_2\text{H}_5\text{COCl}$
14. Propanoic acid liberates CO_2 from Na_2CO_3 . The carbon of CO_2 comes from.
 A. Methyl group B. Carboxyl group
 C. Methylene group D. Carbonate ion
15. 2-Butene heated with alkaline or acidic KMnO_4 forms _____.
 A. Butanoic acid B. Propanoic acid
 C. Ethanoic acid D. Oxalic acid

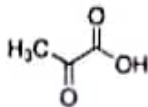


- Q.16 Which of the following has maximum number of carbon atoms.
 A. Succinic acid
 B. Adipic acid
 C. Oxalic acid
 D. Malonic acid
- Q.17 Which of the following reagent is used to convert carboxylic acids into primary alcohol
 A. LiAlH_4
 B. NaBH_4
 C. KMnO_4
 D. Ni
- Q.18 General formula for the carboxylic acid is $\text{C}_n\text{H}_{2n-1}\text{COOH}$. What is the value of "n" here for formic acid.
 A. 1
 B. 2
 C. 3
 D. 0
- Q.19 By oxidation of which compound carboxylic acid can not be obtained
 A. 2-Methyl-2-propanol
 B. 1-Butanol
 C. 2-Butanol
 D. 3-Propanol
- Q.20 Reagent used to reduce a carboxylic acid to an alkane is
 A. Ni/H_2
 B. P/HI
 C. NaBH_4
 D. LiAlH_4
- Q.21 Valeric acid is obtained from a herb valerian. Its IUPAC name is
 A. Propionic acid
 B. Butyric acid
 C. Pentanoic acid
 D. Caproic acid
- Q.22 $\text{CH}_3\text{CH}_2 - \text{MgBr} + \text{CO}_2 \rightarrow$ Product is
 A. $\text{C}_3\text{H}_7\text{COOH}$
 B. $\text{C}_2\text{H}_5\text{COOH}$
 C. $\text{C}_4\text{H}_9\text{COOH}$
 D. HCOOH
- Q.23 Consider the following structure and choose the correct name of the compound.
- $$\begin{array}{c} \text{H}-\text{C}-\text{COOH} \\ || \\ \text{H}-\text{C}-\text{COOH} \end{array}$$
- A. Fumaric acid
 B. Maleic acid
 C. Succinic acid
 D. Tartaric acid
- Q.24 Lower monocarboxylic acids are soluble in water due to
 A. Hydrogen bonding
 B. Chemical reaction
 C. London forces
 D. Dipole-dipole interaction
- Q.25 Which of the following is correct about enzymes?
 A. It decreases the activation energy
 B. It increases the activation energy
 C. It changes the equilibrium constant
 D. It is highly non specific in nature
- Q.26 One of the following compounds reacts with its own oxidation product (an oxidation which involves no loss of carbon) to give sweet odour liquid
 A. Propanal
 B. 1-Propanol
 C. Propanone
 D. Propanoic acid
- Q.27 An acid with unpleasant smell
 A. Formic acid
 B. Acetic acid
 C. Propanoic acid
 D. Butyric acid
- Q.28 Which of the following is not an ester
 A. Amyl acetate
 B. Sodium butyrate
 C. Isobutyl formate
 D. Octyl acetate
- Q.29 $\text{X} + \text{CH}_3\text{COOH} \rightarrow$ Formyl acetate + H_2O , X is
 A. Methanol
 B. Ethanol
 C. Phenol
 D. Propanol
- Q.30 Which of the following is electrophilic substitution reaction of carboxylic acid
 A. Acyl formation
 B. Salt formation
 C. Ester formation
 D. Acid amide formation



- Q.31 The strongest acid is
 A. CH_3COOH B. $\text{CH}_3\text{CH}_2\text{COOH}$
 C. $\text{Cl-CH}_2\text{COOH}$ D. $\text{Br-CH}_2\text{COOH}$
- Q.32 On strong heating, ammonium acetate gives
 A. Urea B. Formamide
 C. Acetamide D. Methyl cyanide
- Q.33 Alkane nitrile is converted into carboxylic acid by passing through
 A. Ammonium acetate B. Iso-butyrate
 C. Acid amide D. Alkyl amine
- Q.34 All of the following are dicarboxylic acids except
 A. Phthalic acid B. Malonic acid
 C. Oxalic acid D. Valeric acid
- Q.35 The general formula for aliphatic monocarboxylic acid is
 A. $\text{C}_n\text{H}_{2n}\text{O}_2$ B. $\text{C}_n\text{H}_{2n+2}\text{O}$
 C. $\text{C}_n\text{H}_{2n}\text{O}$ D. C_nH_{2n}
- Q.36 Which of the following carboxylic acid will be the product on hydrolysis of ethyl butyrate
 A. Propanoic acid B. Butanoic acid
 C. Ethanoic acid D. Methanoic acid
- Q.37 Which of the following carboxylic acid has highest pK_a value
 A. Formic acid B. Acetic acid
 C. Propionic acid D. Butyric acid
- Q.38 The common name of butane-1, 4-dioic is
 A. Oxalic acid B. Succinic acid
 C. Malonic acid D. Fumaric acid
- Q.39 Which of the following is the strongest acid?
 A. HCOOH B. CH_3COOH
 C. $\text{C}_6\text{H}_5\text{-OH}$ D. $\text{C}_6\text{H}_5\text{-COOH}$
- Q.40 What product is formed when acetic acid heated in presence of P_2O_5
 A. Acetyl chloride B. Trichloro acetic acid
 C. Acetic anhydride D. Dichloro acetic acid
- Q.41 Which of the following derivative of carboxylic acid is more reactive
 A. $\text{CH}_3\text{COOC}_2\text{H}_5$ B. CH_3CONH_2
 C. CH_3COOH D. CH_3COCl
- Q.42 Which compound gives CO_2 with NaHCO_3 ?
 A. Hexanol B. Phenol
 C. n-butanol D. Acetic acid
- Q.43 Acetamide is made by heating ammonium acetate, the reaction that takes place is
 A. Dehydrogenation B. Condensation
 C. Drying D. Dehydration
- Q.44 Among the following acids which is less soluble as well as least acidic in water
 A. CH_3COOH B. HCOOH
 C. $\text{CH}_3(\text{CH}_2)_2\text{COOH}$ D. $\text{CH}_3\text{CH}_2\text{COH}$
- Q.45 Which of the following is not a fatty acid
 A. Adipic acid B. Palmitic acid
 C. Stearic acid D. Both B and C
- Q.46 If amyl acetate is added to a liquid, it will develop a flavor of.
 A. Banana B. Jasmine
 C. Pineapple D. Apricot
- Q.47 When acetic acid reacts with 24g Mg, _____ mole of H_2 gas will be produced
 A. Half B. Two
 C. Four D. One

- Q.48** Acidic hydrolysis of Propanenitrile yield a compound "X". When "X" is treated with H₂/P it gives Propane, The compound "X" is?
- A. 1-Propanol
B. Ethane
C. Propanoic acid
D. Ethanamide



- Q.49** Correct IUPAC name of
- A. Pyruvic acid
B. 2-Oxopropanoic acid
C. 2-Methy-2-oxoacetic acid
D. Succinic acid
- Q.50** The activity of enzyme is best at or around the temperature
- A. 310K
B. 37K
C. 273K
D. 25°C
- Q.51** The activator of Carbonic anhydrase enzyme is
- A. Fe⁺²
B. Mg⁺²
C. Zn⁺²
D. Ba⁺²
- Q.52** The non-protein part of an enzyme is called
- A. Co-enzyme
B. Apoenzyme
C. Inhibitor
D. Substrate
- Q.53** The main structural feature of protein is
- A. Ester linkage
B. Peptide linkage
C. Ether linkages
D. Glycosylic linkage
- Q.54** Which one doesn't convert carboxylic acid into acid halide
- A. Cl₂
B. PCl₅
C. SOCl₂
D. PCl₃
- Q.55** Proteins are macro molecules that mostly contain
- A. single type of monomer
B. Single type of amino-acid
C. Single type of side chain between two consecutive peptide bonds
D. Single type of chain length between two consecutive peptide bonds
- Q.56** The helical structure of protein is stabilized by
- A. Ether bond
B. Peptide bonds
C. Intermolecular H-bonds
D. Intramolecular Hydrogen bonds
- Q.57** Which one of the following elements is not present in all proteins?
- A. Carbon
B. Hydrogen
C. Nitrogen
D. Sulphur
- Q.58** Denaturation of protein is caused by
- A. Change the temperature
B. Change the pH
C. Change the heat
D. All of these
- Q.59** Which of the following proteins act as carrier of O₂
- A. Collagen
B. Haemoglobin
C. Albumins
D. Both A and C
- Q.60** Collagen and albumin are
- A. Derived proteins
B. Simple proteins
C. Compound protein
D. Polysaccharide

Low pH
acid strong

No. of C ↓
acid strong
Lipids → ester

Br → weak acid
Cl → strong acid

Class Test

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- Use Blue Ball Point Pen Only.
- Please Fill In The Roll No. Correctly.
- It Is Important That The Circle Is Filled Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ✓

Incorrect Examples: X
 X
 X

SUBJECT: Chem CH/UNIT# 10

NAME: _____

R. NO. (IN WORDS): _____

CLASS: _____ SESSION: _____

SIGN: _____ DATE: _____



ENGLISH MDCAT

TEST-10 (A+ SERIES)

TOPICS:

TEST- NOUN, READING COMPREHENSION & VOCABULARY (151-208)

Directions:

Spot the Error

- Q.1 There is a large amount of sugars in the brownies, so they should not be eaten frequently.
A. is B. amount C. sugars D. they
- Q.2 A Sindhi woman crosses stones, excrements and crumbs of the glass in the Karachi slums.
A. excrements B. crumbs C. the D. slums
- Q.3 Maybe the hairs of my head could be counted, but no one could ever count my regards for you.
A. Maybe B. hairs C. ever D. regards
- Q.4 Viewers also get to see what 700 dynamites and 3,000 gallons of gasoline in plastic garbage cans look like before they explode.
A. viewers B. 700 dynamites C. 3,00 gallons D. garbage cans
- Q.5 The Writer offered three hundreds dollars for the oyster, though he knew there was no pearl in it.
A. hundreds B. for C. though D. it
- Q.6 Fresh vegetable could be obtained only during the growing season.
A. vegetable B. only C. during D. growing
- Q.7 The odd against being hit by a falling object that size are, I should say, ten million to one.
A. odd B. are C. million D. to
- Q.8 The news reporter's survey shows that the unemployment statistics is disturbing in our country.
A. reporter's survey B. unemployment C. is D. in our country
- Q.9 Most of the money collected by custom comes from import duties on mineral fuels, petrol, gas, machinery, equipment and automobiles.
A. custom B. mineral fuels C. machinery D. automobiles
- Q.10 You must obey my orders; no telephone calls, no communications with the outside.
A. orders B. call C. communications D. outside
- Q.11 The swim you took must have addled your brain more than I thought.
A. The swim B. took C. brain D. than
- Q.12 Judged on this criteria, the tour is undoubtedly a flop of monumental proportions.
A. on B. this C. the tour D. proportions
- Q.13 He gave me an advice but I did not act upon his advice.
A. gave B. an advice C. act upon D. advice
- Q.14 Al-Zahra became the nucleus of a royal suburb whose remain can still be seen.
A. the nucleus B. suburb C. remain D. be seen
- Q.15 When I reached in the garden, I saw the children who were climbing like monkies.
A. in the garden B. who C. like D. monkies
- Q.16 Surely, these (A) disease carrying vermins (B) are (C) totally unacceptable and it is high time the authorities did (D) something about them.
A. these B. vermins C. are D. did
- Q.17 Experiments (A) revealed the same cells (B) that have also been discovered (C) in rats, gophers, mouses, (D) and hamsters.
A. Experiments B. the same cells C. been discovered D. mouses
- Q.18 Man (A) versus Horse Marathon is (B) an annual race over 22 mile long (C) where runners compete against riders on horseback. (D)
A. Man B. is C. mile long D. horseback
- Q.19 Judged (A) on this criteria, (B) the tour is undoubtedly a flop (C) of monumental proportions. (D)
A. Judged B. this criteria C. a flop D. proportions
- Q.20 Six to eight (A) hundred people (B) are living (C) in those marble ruin (D) in the hills.
A. Six to eight B. hundred people C. are living D. in those marble ruin

DIRECTIONS:

Choose the Correct Option.

- Q.21
A. This is my uncle's, the engineer's office. B. This is my uncle's, the engineer office.
C. This is my uncle, the engineer office. D. This is my uncle, the engineer's office.
- Q.22
A. I will be back as soon as I change my clothe. B. I will be back as soon as I change my cloth.
C. I will be back as soon as I change my clothes. D. I will be back as soon as I changed my clothes.
- Q.23
A. The captain established headquarters in an abandoned bar.
B. The captain established headquarter in an abandoned bar.
C. The captain established headquarters in an abandon bar.
D. The captain established headquarter in an abandoning bar.

- Q.24
A. Having handing Harry three ten-dollar bills, he left the shop.
B. Having handed Harry three ten-dollar bill, he left the shop.
C. Having handed Harry three ten dollars bills, Clark left the shop.
D. Having handed Harry three ten-dollar bills, Clark left the shop.
- Q.25
A. The sceneries of Kashmir are very good.
B. The sceneries of Kashmir have very good.
C. The sceneries of Kashmir were very good.
D. The scenery of Kashmir is very good.
- Q.26
A. Some new pieces of furniture have been added.
B. Some new items of furniture has been added.
C. Some new furniture have been added.
D. Some new furnitures have been added.
- Q.27
A. I will get you a pieces of paper, so you can write the number down.
B. I will get you some papers, so you can write the number down.
C. I will get you a paper, so you can write the number down.
D. I will get you a piece of paper, so you can write the number down.
- Q.28
A. More people are in work than ten years ago.
B. Much people are in works than ten years ago.
C. More people are in work than ten year ago.
D. More people are in works than ten year ago.
- Q.29
A. There was not much traffics on the roads.
B. There were not many traffics on the roads.
C. There was not many traffic on the roads.
D. There was not much traffic on the roads.
- Q.30
A. The black trouser suit cost me five thousand rupees.
B. The black trousers suit cost me five thousand rupees.
C. The black trouser suit cost me five thousands rupees.
D. The black trousers suit cost me five thousand rupee.

DIRECTIONS:

Choose the correct **SYNONYM**:

- Q.31 **REINFORCE**
A. Augment
B. Impair
C. Thwart
D. Foil
- Q.32 **REPRIMANDED**
A. Esteemed
B. Exalted
C. Acclaimed
D. Chastised
- Q.33 **RIOT**
A. Commotion
B. Poise
C. Ruse
D. Banality
- Q.34 **RELUCTANTLY**
A. Gallantly
B. Vehemently
C. Intrepidly
D. Diffidently
- Q.35 **REFUGE**
A. Heaven
B. Atop
C. Susceptibility
D. Precariousness

Directions:

Choose the correct **ANTONYM**

- Q.36 **RESONANT**
A. Booming
B. Hollow
C. Evocative
D. Reminiscent
- Q.37 **RARELY**
A. Occasionally
B. Sporadically
C. Invariably
D. Rudimentary

Directions:

Choose the correct **SPELLING**

- Q.38
A. Quotation
B. Qotation
C. Qoutation
D. Qutation

Directions:

Read the following passage and answer the questions carefully

About a hundred years ago, whenever an operation was performed, the patient would cry out in agony because he felt the surgeon cut his flesh. But now serious operations are performed without pain, and thousands of lives are saved. James Simpson was the first to discover and use the pain-killing power of chloroform. James was born into a poor family. So in his childhood, he not only helped his father on holidays but also helped the village doctor. But he was horrified by the dire suffering of the people who came to the hospital for treatment. He now made it his life's mission to find new inventions that would prevent so much pain. Simpson did many experiments and finally discovered chloroform. Now the patient is not afraid of the operation.

- Q.39 **Who discovered the pain-killing power of chloroform?**
A. James Simpson.
B. Marlow
C. America
D. Fleming
- Q.40 **Why are patients not afraid of the operation?**
A. Because of chloroform
B. Because of experiments
C. Because of suffering
D. Because of doctors

A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D				
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3	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	18	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	47	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	49	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	35	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	22	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	36	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	51	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	23	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	52	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	24	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	38	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	39	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	54	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	26	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	55	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	41	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	56	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	28	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	57	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	58	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	30	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	59	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
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8	8	8	8	8	8	8	8
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1. Use Blue Ball Point Pen Only.
2. Please Fill In The Roll No. Correctly.
3. It is Important That The Circle Is Filled Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ✓

Incorrect Examples: X
 X
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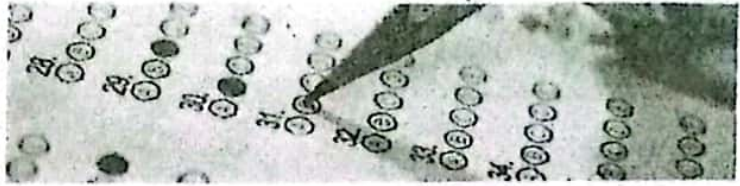
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NAME: _____

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CLASS: _____ SESSION: _____

SIGN: _____ DATE: _____



LOGICAL REASONING MDCAT

UNIT-6 (A+SERIES)

TOPIC:

✓ **CRITICAL THINKING**

QUESTIONS 1-4

The force of technological change will have an impact on the manufacturing industry. But the real effect will be on the information processing industry like software development, service industries like airlines, insurance and consulting --- both technical and managerial, designing and executing jobs. Another feature of technological change by the end of century will be the resistance to change from within and outside the organizations. Satisfactory resolutions will require a high degree of mutual cooperation between Government and Industry, Industry and its users, Management and Unions and within organizations across functions.

Q.1 The technological change will affect only specific functions in an organization leaving the others undisturbed.

- A. Definitely true
- B. Data inadequate
- C. Definitely false
- D. Probably true
- E. Probably false

Q.2 As compared to service industry, the manufacturing industry will be less affected by the technological change:

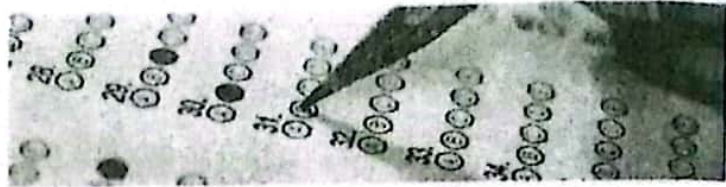
- A. Definitely true
- B. Probably true
- C. Data inadequate
- D. Probably false
- E. Definitely false

Q.3 Technological change has already set in:

- A. Definitely false
- B. Probably false
- C. Data inadequate
- D. Probably true
- E. Definitely true

Q.4 People prefer status quo:

- A. Probably true
- B. Probably false
- C. Definitely true
- D. Definitely false
- E. Data inadequate



QUESTIONS 5-8

There is more bad news on food front. It now appears certain that there will be a shortfall of about 9 million tons in the food production in the current kharif season, which in turn means five million tons less than the production achieved in the last kharif season. However, rice procurement may only be partially affected since KPK and Sindh have had sufficient rainfall while Punjab, the major contributor to the central pool is less dependent on rainfall. Still, the overall availability of rice may go down by more than four million tons. There may be worst news ahead.

Q.5 There is no canal water facility in KPK and Sindh.

- A. Definitely false
- B. Probably false
- C. Data inadequate
- D. Probably true
- E. Definitely true

Q.6 The procurement price of rice will increase this year.

- A. Data inadequate
- B. Definitely true
- C. Probably true
- D. Definitely false
- E. Probably false

Q.7 In the last year, there was a deficit production of rice by five million tons.

- A. Probably true
- B. Probably false
- C. Definitely false
- D. Definitely true
- E. Data inadequate

Q.8 It is likely that production of rice will be below the normal level in the next year.

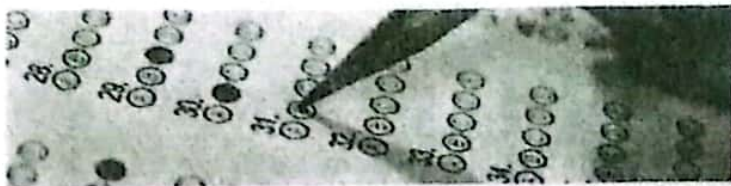
- A. Probably false
- B. Definitely false
- C. Data inadequate
- D. Definitely true
- E. Probably true

QUESTIONS 9- 12

Pakistani granite industry is in peril in the absence of a uniform policy from the State Governments, despite the thrust given by liberalization policies of the Union Government in the last two years. Compared to the remarkable progress in the filed during the last three years, the absence of matching policies by State Governments had put granite quarry owners and others involved in the industry on the verge of collapse in the international market. The policies differed from state to state, had created problems as far as loyalty, dead rent and duration of lease were concerned.

Q.9 The granite produced in Pakistan does not match with the quality of international level:

- A. Definitely false
- B. Definitely true
- C. Probably false
- D. Probably true
- E. Data inadequate

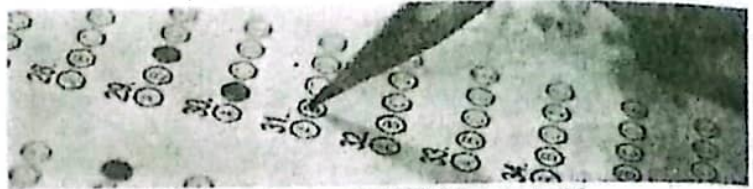


- Q.10** The Union Government's liberalization policy became applicable to granite industry only during the last two years.
- A. Definitely true
B. Probably true
C. Data inadequate
D. Probably false
E. Definitely false
- Q.11** Each state having granite quarry has set up its own rules which are contrary to the interest of the industry.
- A. Probably true
B. Data inadequate
C. Probably false
D. Definitely false
E. Definitely true
- Q.12** Till three years ago, granite production in Pakistan was not profitable.
- A. Data inadequate
B. Probably true
C. Definitely false
D. Probably false
E. Definitely true

QUESTIONS 13-15

Studies have shown that there is relatively much more heart disease among people living in the north of England than people living in the south of England. There is little if any difference, however, in rate of heart disease between northerners and southerners who have the same level of income. The average income of southerners in England is considerably higher than the average income of northerners.

- Q.13** People in high income brackets are in a better position to avoid developing heart disease than people in low income brackets.
- A. Probably false
B. Definitely false
C. Data inadequate
D. Definitely true
E. Probably true
- Q.14** There is a lower rate of heart disease among northerners with relatively high incomes than among northerners with much lower incomes.
- A. Probably false
B. Definitely false
C. Data inadequate
D. Definitely true
E. Probably true
- Q.15** Whether northerners have high incomes or low incomes makes no difference to the likelihood of their developing heart disease.
- A. Probably false
B. Definitely false
C. Data inadequate
D. Definitely true
E. Probably true



Q.16 In a certain language, CAP is coded as 61, then how will PEN be coded?

- A. 40
B. 66
C. 80
D. 46

Q.17 In an examination, Naheed scored more than Zeeshan, Ussama scored as much as Dia, Rukhsar scored less than Muneer, Zeeshan scored more than Ussama, Muneer scored less than Dia. Who scored the lowest?

- A. Naheed
B. Muneer
C. Rukhsar
D. Ussama

Q.18 Illiteracy : Education :: Flood : ?

- A. Rain
B. Bridge
C. Dam
D. River

Q.19 Statement:

If the faculty members also join the strike, there is going to be a serious problem.

Course of Action:

- I. The faculty members should be persuaded not to go on strike.
II. Those faculty members who join the strike should be suspended.
III. The management should not worry about such small things.

- A. All follows
B. Only III follows
C. Only II follows
D. Only I follows

Q.20 Statements

No student is a foreigner.

All foreigners are teachers.

Each teacher is director

Conclusions:

- I. Some teachers are not students.
II. No foreigner is a student.
III. All foreigners are directors.

- A. All follows
B. None follows
C. Only I
D. None of these