

COMBO - ଓଡ଼ିଶା
29,000- MCQ
ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
 ପୂର୍ବ 5 ବର୍ଷର OSSSC, OSSC, OPSC, ପୋଲିସ, CT, B.ED, ଅନ୍ୟ ସବୁ ପ୍ରଶ୍ନ
GK, ODIA, ENGLISH, , MATH, COMPUTER, Reasoning, Pedagogy

GK- ଓଡ଼ିଶାର
ସମସ୍ତ ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
ଓଡ଼ିଆ ଓ ଇଂରାଜୀ ରେ
10,800- MCQ
E-BOOK- PDF
 OSSSC , OSSC , OPSC, Police SI /Constable, PEO, RI, Battalion, Fireman, B.ED, JT, RHT, CT, OAVS, OSSTET, OTET & Other

ଓଡ଼ିଆ ବ୍ୟାକରଣ
ସମସ୍ତ ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
4,246- MCQ
75- TEST
E-BOOK- PDF
 OSSSC, OSSC, OPSC, POLICE, B.ED, JT, RHT, CT, OAVS, OSSTET, OTET, OSSSC (PEO, RI, ARI & Other) & Other

ENGLISH- ଓଡ଼ିଶାର
ସମସ୍ତ ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
4,300- MCQ
E-BOOK- PDF
 OSSSC , OSSC , OPSC, Police SI /Constable, PEO, RI, Battalion, Fireman, B.ED, JT, RHT, CT, OAVS, OSSTET, OTET & Other

କୋମ୍ପ୍ୟୁଟର- ଓଡ଼ିଶାର
ସମସ୍ତ ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
ଓଡ଼ିଆ ଓ ଇଂରାଜୀ ରେ
E-BOOK- PDF
1,900- MCQ
 OSSSC, OSSC , OPSC, Police SI & Constable, Battalion, PEO, RI, AMIN, JT, RHT & Other Exams

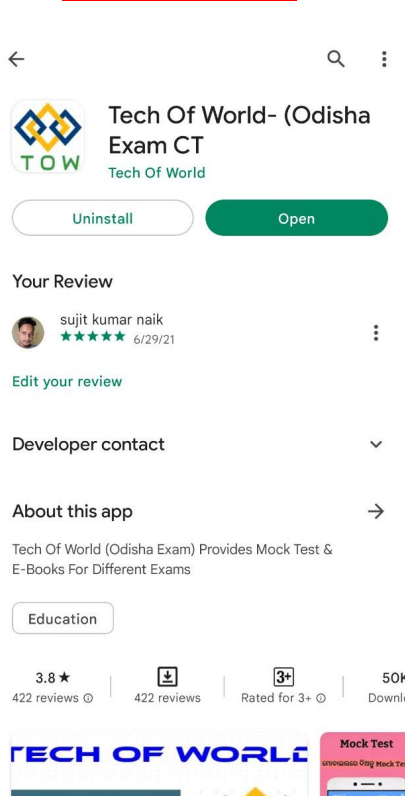
MATH- ଓଡ଼ିଶାର
ସମସ୍ତ ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
ଓଡ଼ିଆ ଓ ଇଂରାଜୀ ରେ
3,000- MCQ
E-BOOK- PDF
 OSSSC , OSSC , OPSC, Police SI /Constable, PEO, RI, Battalion, Fireman, B.ED, JT, RHT, CT, OAVS, OSSTET, OTET & Other

PEDAGOGY ଓଡ଼ିଶାର
TEACHING APITUDE
ପୂର୍ବ ବର୍ଷ ପ୍ରଶ୍ନ
ଓଡ଼ିଆ ଓ ଇଂରାଜୀ ରେ
1,900- MCQ
 B.ED, RHT, CT, JT, OAVS, OSSTET, OTET & Other

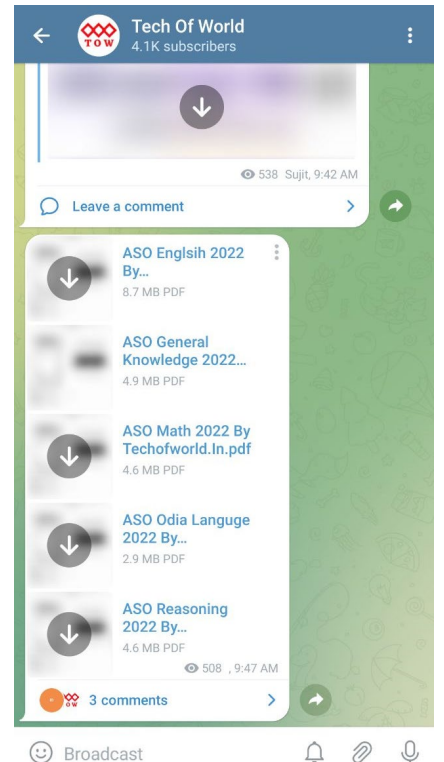
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OSSC Main Written Examination for Regular Teacher 22nd Sep 2023 S2 Tentative Score

Participant ID	
Participant Name	
Test Center Name	
Test Date	22/09/2023
Test Time	12:30 PM - 2:30 PM
Subject	TGT Science CBZ
Marks Obtained	

Section : Pedagogy

Q.1 According to constructivist approach to teaching-learning, the learner is considered as:

- Ans
- A. Raw material to be shaped as desired.
 - B. Somebody who is not exposed to world around.
 - C. An empty vessel to be filled with information.
 - D. An active individual with rich past experiences.

Question Type : MCQ

Question ID : 4906393604

Option 1 ID : 49063914413

Option 2 ID : 49063914415

Option 3 ID : 49063914414

Option 4 ID : 49063914416

Status : Not Answered

Chosen Option : --

Marks : 0

Q.2 Which of the following types of validity is relevant for an achievement test?

- Ans
- A. Predictive validity
 - B. Concurrent validity
 - C. Content validity
 - D. Construct validity

Q.3 Which of the following characteristics of a learner may help the teacher in designing effective teaching-learning conditions?

- Ans** A. Pre-requisite knowledge of the learner
 B. Learner's family background
 C. Good teacher-pupil relationship.
 D. Location of the school building

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Q.4 For any test of ability, aptitude, or achievement, which of the following is the most important characteristic?

- Ans** A. Validity
 B. Reliability
 C. Usability
 D. Objectivity

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Q.5 A test used for forecasting an individual's potential for future learning in some specific area, is technically called:

- Ans** A. Diagnostic test
 B. Achievement test
 C. Ability test.
 D. Aptitude test

Q.6 Which of the following is a disadvantage of lecture method of teaching?

- Ans**
- A. Teacher can address large group of learners at the same time.
 - B. It is economical in terms of man, money, and material.
 - C. Its coverage may be further improved by using microphone.
 - D. It is one-way communication which does not activate learners.

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Q.7 When assessment is done for the purpose of certification, it is an example of:

- Ans**
- A. Summative assessment
 - B. Prognostic assessment.
 - C. Formative assessment
 - D. Internal assessment

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Q.8 Which of the following types of testing may be categorised as assessment of learning?

- Ans**
- A. Ability testing
 - B. Diagnostic testing
 - C. Achievement testing
 - D. Aptitude testing

Q.9 Which of the following is NOT the purpose of formative assessment?

- Ans**
- A. To motivate learners to work harder.
 - B. To monitor learner's ongoing progress in learning.
 - C. To provide feedback for improvement of teaching.
 - D. To prepare an end-term report card of learning.

Q.10 A rubric developed as a part of assessment process acts as a:

- Ans**
- A. Measuring tool.
 - B. Seating plan
 - C. Optical scanner.
 - D. Scoring guide

Q.11 Which of the following statements describes a characteristic of summative assessment?

- Ans**
- A. It helps the teacher to modify his method of teaching.
 - B. It informs the learner of how well he is learning.
 - C. It assesses learning performance at the end of the term.
 - D. It evaluates ongoing learning progress of the learner.

Q.12 Which of the following teacher behaviour is conducive to enhancing learners' motivation?

- Ans**
- A. Checking daily homework
 - B. Discouraging truancy
 - C. Reinforcing desirable behaviour
 - D. Promoting competition

Q.13 The focus of constructivist theory of learning is on:

- Ans**
- A. Encouraging individual self-study.
 - B. Memory based learning.
 - C. Interactive and discussion-based learning.
 - D. Following teacher's directions in toto.

Q.14 Learning is a continuous process of:

- Ans**
- A. Growth and development.
 - B. Developing survival skills.
 - C. Change in behaviour.
 - D. Acquiring knowledge.

Q.15 The effectiveness of teaching-learning process is assessed in terms of:

- Ans**
- A. Extent of ICT used by the teacher.
 - B. Amount of subject matter taught.
 - C. Scores of students in the examination.
 - D. Learning outcomes relative to objectives.

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Q.16 Which of the following teaching approaches believes that learner can build knowledge on the foundation of his experiences?

- Ans**
- A. Curriculum-centric approach.
 - B. Learner-centric approach
 - C. Constructivist approach
 - D. Teacher-centric approach

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Q.17 While selecting teachers for undergraduate teaching, previous work of candidates like book, paper/articles published, and certificates of other accomplishments are examined. This is a kind of:

- Ans**
- A. Formative assessment.
 - B. Project work assessment
 - C. Summative assessment
 - D. Portfolio assessment.

Q.18 The first step in the process of development of an achievement test is to:

- Ans** A. Prepare a blueprint for the proposed test.
 B. List course objectives to be achieved.
 C. Decide the number and type of test-items.
 D. Construct a content-based pool of test-items.

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Q.19 Which of the following statements is true for relationship between learning and maturation?

- Ans** A. Learning-maturation relationship is complex.
 B. Learning and maturation are synonymous.
 C. Learning is not related to maturation.
 D. Learning precedes maturation..

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Q.20 Which of the following techniques of learning emerged out of humanistic theory of Karl Rogers?

- Ans** A. Learning through imitation
 B. Learning by conditioning.
 C. Learning by self-initiation
 D. Learning by discovery

Q.21 Phototropism is caused in the stimulated stems because of unequal distribution of

- Ans**
- A. Auxin
 - B. Cytokinin
 - C. Ethylene
 - D. Gibberelin

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Q.22 The common method of reproduction in yeast is

- Ans**
- A. Budding
 - B. Fission
 - C. Conidia formation
 - D. Endospore formation

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Q.23 The culture of anther produces a wide range of

- Ans**
- A. Triploid tree
 - B. Tetraploid tree
 - C. Haploid trees
 - D. Diploid trees

Q.24 The total number of different unit characters chosen by Mendel for his experiment in Garden Pea were

- Ans A. 9
 B. 7
 C. 8
 D. 6

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Q.25 The source of Oxygen liberated in photosynthesis is

- Ans A. H_2O
 B. CO_2
 C. Photosynthetic pigments
 D. Glucose

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Q.26 Mesophytes are a group of plants that grow in/on

- Ans A. Land
 B. Sand
 C. Rock
 D. Water

Q.27 Entry of pollen tube in to the ovule through its integument is known as

- Ans
- A. Chalazogamy
 - B. Porogamy
 - C. Mesogamy
 - D. Basigamy

Q.28 Ethylene is a

- Ans
- A. Solid hormone
 - B. Gaseous hormone
 - C. Semisolid hormone
 - D. Liquid hormone

Q.29 Anemophily is linked to pollination by

- Ans
- A. Water
 - B. Insects
 - C. Animals
 - D. Wind

Q.30 Ustilago, the causative agent of smut disease , spreads rapidly fast in

- Ans**
- A. Dry weather
 - B. Damp weather
 - C. Wet weather
 - D. Cloudy weather

Q.31 Virus free plants are produced from the tissue culture of

- Ans**
- A. Intercalary meristem
 - B. Apical meristem
 - C. Lateral meristems
 - D. Pith cell

Q.32 C4 plants are adopted

- Ans**
- A. Humid climate
 - B. Temperate climate
 - C. Hot and dry climate
 - D. Cold and dry climate

Q.33 Heart wood in plant is a

- Ans**
- A. Growing tissue
 - B. Dead tissue
 - C. Living tissue
 - D. Decomposed tissue

Q.34 The hormone that induces cell division is

- Ans**
- A. Gibberelin
 - B. Auxin
 - C. Cytokinin
 - D. Ehylene

Q.35 Conjoined collat eral closed vascular bundles are seen in

- Ans**
- A. Monocot Stem
 - B. Dicot root
 - C. Monocot root
 - D. Dicot Stem

Q.36 The parenchymatous cells that give buoyancy to floating plants are called as

- Ans**
- A. Chlorenchyma
 - B. Collenchyma
 - C. Prosenchyma
 - D. Aerenchyma

Q.37 Meristematic tissues are characterized by

- Ans**
- A. Thick cell walls with no intracellular space
 - B. Thick cell wall with intracellular space
 - C. Thin cell wall with intracellular space
 - D. Thin cell walls with no intercellular space

Q.38 Asexual reproduction in Ascomycetes takes place commonly through

- Ans**
- A. Zoospores
 - B. Conidia
 - C. Endospores
 - D. Akinetes

Q.39 Cyclic photophosphorylation produces

Ans

A. ATP, NADPH₂ and O₂

B. ATP

C. NADPH₂

D. ATP and NADPH₂

Q.40 The dehybrid cross ratio of 9:3:3:1 represents the

Ans

A. Genotypic ratio

B. Both genotypic and phenotypic ratios

C. Allelic Ratio

D. Phenotypic ratio

Q.41 The fungus *Phytophthora influenza* is the causal agent of

Ans

A. Red blight of potato

B. Black blight of potato

C. Early blight of potato

D. Late blight of potato

Q.42 The alternative (second) host associated with black stem rust of wheat is

- Ans A. Barley
 B. Barberry
 C. Wheat
 D. Maize

Q.43 During the dark reaction of photosynthesis

- Ans A. Water splits
 B. Chlorophyll is activated
 C. 6C sugar breaks down to 3C sugars
 D. CO₂ is reduced to Organic compounds

Q.44 The photoperiodic behavior of plants is mediated by a pigment known as

- Ans A. Florigen
 B. Phytochrome
 C. Ferrochrome
 D. Cytochrome

Q.45 The base metal in the chlorophyll molecule is

- Ans
- A. Iron
 - B. Zinc
 - C. Nickel
 - D. Magnesium

Q.46 Which among the following does not include phloem ?

- Ans
- A. Companion cells
 - B. Sieve tubes
 - C. Phloem parenchyma
 - D. Wood fibers

Q.47 The law of segregation is linked to

- Ans
- A. Meiosis
 - B. Amitosis
 - C. Promitosis
 - D. Mitosis

Q.48 Coraloid roots are seen with

- Ans**
- A. Pinus
 - B. Gnetum
 - C. Psilotum
 - D. Cycas

Q.49 Carotenoid pigments protects the plant from

- Ans**
- A. Dessication
 - B. Photorespiration
 - C. Photooxidation
 - D. Photosynthesis

Q.50 Ribbon-shaped chloroplasts can be seen in

- Ans**
- A. Chlorella
 - B. Chlamydomonas
 - C. Cladophora
 - D. Spirogyra

Q.51 Elaters seen in bryophytes are responsible

- Ans**
- A. Spore multiplication
 - B. Spore development
 - C. Spore germination
 - D. Spore dispersal

Question
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Chosen

Q.52 Tropical plants such as sugarcane show high efficiency for fixation of CO₂ due to

- Ans**
- A. Hatch Slack Cycle
 - B. Calvin Cycle
 - C. TCA cycle
 - D. EMP pathway.

Question
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Q.53 Bicolateral vascular bundles are seen with

- Ans**
- A. Rice
 - B. Cucurbita
 - C. Tobacco
 - D. Betel leaf

Q.54 Gemma cups can be seen in

- Ans A. Anthoceros
 B. Marchantia
 C. Riccia
 D. Funaria

Q.55 Protonema appears with members

- Ans A. Hepaticopsida
 B. Anthocerotopsida
 C. Bryopsida
 D. Pteropsida

Q.56 The supplementary factor is represented by phenotypic ratio

- Ans A. 9:7
 B. 9:3:4
 C. 9:3:3:1
 D. 12:3:1

Q.57 Endosperm in gymnosperm is

- Ans** A. Haploid
 B. Triploid
 C. Diploid
 D. Tetraploid

Q.58 Internode elongation is primarily associated with

- Ans** A. Gibberellins
 B. Cytokinin
 C. Abscisic acid
 D. Auxins

Q.59 Casperian strips are associated with

- Ans** A. Medullary rays
 B. Vascular bundles
 C. Endodermis
 D. Pericycle

Q.60 Mucor is a

- Ans A. Parasite
 B. Saprophyte
 C. Epiphyte
 D. Semi-parasite

Q.61 The elements associated with photolysis of water in photosynthesis are

- Ans A. Na and K
 B. Mo and Cl
 C. B and Cl
 D. Mn and Cl

Q.62 The substrate for photorespiration is

- Ans A. Serine
 B. Glycolate
 C. OAA
 D. Malic acid

Q.63 Triple fusion in angiosperms results in the formation of

- Ans**
- A. Zygote
 - B. Oospore
 - C. Endosperm
 - D. Oosphere

Q.64 Cork cambium is associated with the second growth of stems in

- Ans**
- A. Extra stelar Area
 - B. Intra stelar Area
 - C. Stelar Area
 - D. Non- Stelar Area

Q.65 The fungus responsible for causing the Smut disease belongs to

- Ans**
- A. Deuteromycetes
 - B. Basidiomycetes
 - C. Ascomycetes
 - D. Phycomycetes

Q.66 The experimental material used by Mendel for his study in genetics is

- Ans
- A. Frog
 - B. Cockroach
 - C. Drosophila
 - D. Garden Pea

Q.67 The Vitamin that is synthesized by Bacteria inside the gut is

- Ans
- A. K
 - B. C
 - C. D
 - D. B

Q.68 The nerve centre for hunger and thirst is present in

- Ans
- A. Pons
 - B. Medulla
 - C. Hypothalamus
 - D. Thalamus

Q.69 Kaziranga National park is linked to the conservation of:

- Ans** A. One horned Rhinos
 B. Deers
 C. Peacocks
 D. Elephants

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Q.70 If the coding DNA strand has got the nitrogenous base sequence of (AATTCAAT), the corresponding mRNA will have the sequence of

- Ans** A. AAUUCAAU
 B. UUTTUGGC
 C. AAGTTACC
 D. TTAAGTTA

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Q.71 The number of CO₂ molecules released during complete oxidation of a single molecule of Glucose is/are

- Ans** A. Six
 B. Three
 C. One
 D. Five

Q.72 The chemical formed during anaerobic respiration responsible for Muscle Cramps is

- Ans** A. Glutamic acid
 B. Lactic acid
 C. Carboxylic acid
 D. Pyruvic acid

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Q.73 The cells named podocytes occur in

- Ans** A. Inner wall of Bowman's capsule
 B. Outer wall of Bowman's capsule
 C. Upper wall of Bowman's capsule
 D. Large Intestine

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Q.74 The common feature among amylase, rennin, and trypsin is:

- Ans** A. All are produced in Stomach
 B. All are proteins
 C. All are proteolytic enzymes
 D. All act at a lower pH

Q.75 Crossing over takes place at the sub- stage of:

- Ans**
- A. Diakinesis
 - B. Zygotene
 - C. Leptotene
 - D. Pachytene

Q.76 Ultra-filtration occurs due to

- Ans**
- A. Circulating blood
 - B. Secretion
 - C. Glomerular hydrostatic pressure
 - D. Osmotic concentration

Q.77 Deforestation generally decreases due to:

- Ans**
- A. Rainfall
 - B. Drought
 - C. Soil erosion
 - D. Global warming

Q.78 Animal cells are connected with each other by:

- Ans A. Desmosomes
 B. Cell membrane
 C. Plasmodesmata
 D. Plasma membrane

Q.79 Ecological Pyramids are also called as:

- Ans A. Ectonian Pyramids
 B. Pyramid of Number
 C. Pyramid of Energy
 D. Pyramid of Biomass

Q.80 Which among the following is not found in case of animal cell?

- Ans A. Cell membrane
 B. Mitochondria
 C. Cytoplasm
 D. Cell wall

Q.81 ADH takes part in

- Ans
- A. NA^+ reabsorption
 - B. water retention in Nephron
 - C. Reducing Urea formation
 - D. Absorption of Water from Urine

Q.82 The major gases concerned with Acid rain are

- Ans
- A. O_3
 - B. SO_2 and NO_2
 - C. NH_4
 - D. CO

Q.83 Haemoglobin remains dissolved in Blood plasma of

- Ans
- A. Frog
 - B. Hydra
 - C. Earthworm
 - D. Man

Q.84 In liver, synthesis of Urea takes place by

- Ans A. Nitrogen cycle
 B. Kreb's cycle
 C. Ornithine cycle
 D. Glycolysis

Q.85 Which of the following, is represented by an Autotroph?

- Ans A. Mushroom
 B. Rice plant
 C. Mucor
 D. Rhizopus

Q.86 Exchange of segments between non-homologous chromosomes is known as

- Ans A. Inversion
 B. Transduction
 C. Transversion
 D. Translocation

Q.87 The largest part of Brain is

- Ans A. Medulla oblongata
 B. Cerebellum
 C. Olfactory lobe
 D. Cerebrum

Q.88 Oxyntic cells of fundic glands secret

- Ans A. Pepsin
 B. HCL
 C. Renin
 D. Mucus

Q.89 Which gas is not associated with respiration of animal?

- Ans A. H_2O
 B. Mn
 C. O_2
 D. CO_2

Q.90 The Origin of Species by Natural Selection was authored by:

- Ans**
- A. George Mendel
 - B. Charles Darwin
 - C. Aristottle
 - D. Jean B. Lamarck

Q.91 Five kingdom concept of classification was proposed by:

- Ans**
- A. Carolus Linnaeus
 - B. Robert Whittaker
 - C. Theophrastus
 - D. Aristotle

Q.92 Chromatin is composed of

- Ans**
- A. DNA, RNA and Proteins
 - B. DNA and RNA
 - C. RNA and Protein
 - D. DNA and Protein

Q.93 The type of fertilization seen in Frog is:

- Ans**
- A. External
 - B. Tubular
 - C. Internal
 - D. Metamorphic

Q.94 Soil erosion can be prevented by:

- Ans**
- A. Over grazing
 - B. Clearing vegetation
 - C. Afforestation
 - D. Deforestation

Q.95 The Olfactory lobes control the sense of

- Ans**
- A. Sight
 - B. Hearing
 - C. Taste
 - D. Smell

Q.96 Human heart is

- Ans
- A. Progenic
 - B. Neurogenic
 - C. Myogenic
 - D. Eugenic

Q.97 Maximum contribution of O_2 is from

- Ans
- A. Herbs
 - B. Grass lands
 - C. Dense Forests
 - D. Phytoplankton

Q.98 The element required for Blood coagulation is

- Ans
- A. Na
 - B. Mn
 - C. Ca
 - D. K

Q.99 How animal cell is different from plant cell ?

- Ans
- A. Presence of Cytoplasm
 - B. Presence of Cell membrane
 - C. Presence of Mitochondria
 - D. Presence of Centrosome

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Q.100 The blood does not coagulate inside our body because of

- Ans
- A. NaCL in the blood
 - B. Sodium Oxalate in blood
 - C. Heparin in blood
 - D. Blood Pressure

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Q.101 The Mitotic stage at which the chromosomes are seen at the shortest and thickest state is:

- Ans
- A. Anaphase
 - B. Telophase
 - C. Metaphase
 - D. Prophase

Q.102 Which organelle is known as the power house of cell?

- Ans
- A. Golgi bodies
 - B. Chlorophyll
 - C. Mitochondria
 - D. Ribosome

Q.103 The coordination of Various parts, in the human body, is achieved through

- Ans
- A. Nervous system
 - B. Endocrine system
 - C. Muscular system
 - D. Reproductive system

Q.104 The morphological and physiological unit of Vertebrate kidney is

- Ans
- A. Uniferous tubule
 - B. Ureter
 - C. Nephridium
 - D. Seminiferous tubule

Q.105 A heritable condition of possessing more than two complete sets of Chromosomes is known as

- Ans
- A. Diploidy
 - B. Aneuploidy
 - C. Monoploidy
 - D. Polyploidy

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Q.106 The blood of human being gets purified in

- Ans
- A. Heart
 - B. Skin
 - C. Liver
 - D. Lungs

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Q.107 The source of energy in an ecosystem is:

- Ans
- A. ATP
 - B. ADP
 - C. DNA
 - D. Sunlight

Q.108 The gas that has relatively stronger affinity for Hemoglobin than Oxygen is:

Ans

- A. CO
- B. NO₃
- C. CH₄
- D. NO₂

Q.109 The process that helps in nutrient conservation is:

Ans

- A. Leaching
- B. Mineralization
- C. Nitrification
- D. Immobilization

Q.110 Which among the following is a Renewable source of energy?

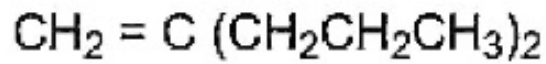
Ans

- A. Kerosene
- B. Biomass
- C. Coal
- D. Petroleum

Q.111

Write IUPAC name of the given

Compound:



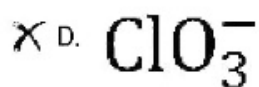
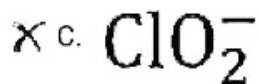
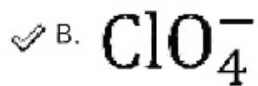
- Ans
- A. 1-n-Propylpent-2-ene
 - B. 2-n-Ethyldipropene
 - C. Dipropylethene
 - D. 2-n-Propylpent-1-ene

Q.112 What is the IUPAC name of the product obtained by addition reactions of HBr to Hex-1-ene in the presence of peroxide

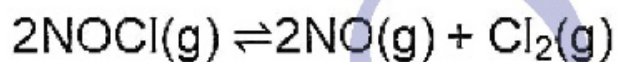
- Ans
- A. 2-Bromohexane
 - B. 1-Bromohexane
 - C. 5-Bromohexane
 - D. 3-Bromohexane

Q.113 Which of the following species, do not show disproportionation reaction

Ans



Q.114 For the equilibrium,



the value of the equilibrium constant, K_c is

3.75×10^{-6} at 1069 K. Calculate the K_p for

the reaction at this temperature?

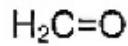
Ans A. 0.003

B. 0.033

C. 0.33

D. 3.33

Q.115 What is the state of hybridisation of carbon in the given compound and its shape?



Ans

- A. sp^3 hybridised carbon, tetrahedral
- B. sp^2 hybridised carbon, trigonal planar
- C. sp hybridised carbon, linear
- D. sp^2 hybridised carbon, trigonal-pyramidal

Q.116 If N_2 gas is bubbled through water at 293K, how many millimoles of N_2 gas would dissolve in 1 litre of water? Assume that N_2 exerts a partial pressure of 0.987 bar. Given that Henry's law constant for N_2 at 293 K is 76.48 kbar.

- Ans
- A. 2.864 mmol
- B. 0.716 mmol
- C. 0.358 mmol
- D. 1.432 mmol

Q.117 What is the role of depressants in Froth floatation process?

- Ans A. It selectively prevents/allows elements to come with froth
 B. To enhance froth
 C. It makes the element heavier and help in settling below
 D. To reduce the amount of froth

Ques

Q1

C

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C

C

Chos

Q.118 How many moles of methane are required to produce 22g CO_2 (g) after combustion?

- Ans A. 3 moles
 B. 1 mole
 C. 2 moles
 D. 0.5 mole

Ques

Q1

C

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Q.119 Which of the following will have the least negative electron gain enthalpy?

- Ans A. F
 B. S
 C. P
 D. Cl

Q.120 Although Thermodynamically feasible, but practically, Magnesium metal is not used for reduction of alumina in the Aluminium metallurgy. Why?

- Ans
- A. The pressure required is not attainable
 - B. The Process is uneconomical
 - C. Magnesium cannot reduce Alumina in any conditions
 - D. The temperature required is not attainable

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Q.121 The vapour pressure of pure benzene at a certain temperature is 0.850 bar. A non-volatile, non-electrolyte solid weighing 0.5 g when added to 39.0 g of benzene (molar mass 78 g mol⁻¹). Vapour pressure of the solution, then, is 0.845 bar. What is the molar mass of the solid substance?

Ans

- A. 17 g mol⁻¹
- B. 170 g mol⁻¹
- C. 85 g mol⁻¹
- D. 340 g mol⁻¹

Q.122 The number of electrons, protons and neutrons in a species are equal to 18, 16 and 16 respectively. Then, the proper symbol of the species would be:

Ans

A. S^{2+}

B. Cl^{2-}

C. P^{2-}

D. S^{2-}

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Q.123

The pK_a of acetic acid and pK_b of ammonium hydroxide are 4.76 and 4.75 respectively. Calculate the pH of ammonium acetate solution.

Ans A. 0.0075

B. 5.007

C. 7.005

D. 0.757

Q.124

The boiling point of benzene is 353.23 K. When 1.80 g of a non-volatile solute was dissolved in 90 g of benzene, the boiling point is raised to 354.11 K. Calculate the molar mass of the solute.

[K_b for benzene is $2.53 \text{ K kg mol}^{-1}$]

Ans

A. 116 g mol^{-1}

B. 98 g mol^{-1}

C. 58 g mol^{-1}

D. 29 g mol^{-1}

Q.125 Which of the following correctly depicts the repulsive interaction of Lone pair (lp) and Bond pair (bp) of electrons?

Ans A. $(lp-bp) > (bp-bp) > (lp-lp)$

B. $(lp-bp) > (lp-lp) > (lp-bp)$

C. $(lp-lp) > (lp-bp) > (bp-bp)$

D. $(lp-lp) > (bp-bp) > (lp-bp)$

Q.126 What would be the IUPAC Nomenclature for the element with atomic number 110?

- Ans A. Unbinilium
 B. Ununnilium
 C. Unnilunium
 D. Ununbium

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Q.127

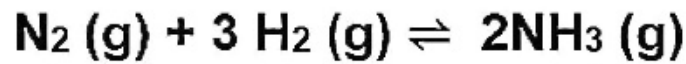
45 g of ethylene glycol ($C_2H_6O_2$) is mixed with 600 g of water. Calculate the freezing point of the solution?

[K_f for water is $1.86 \text{ K kg mol}^{-1}$]

- Ans A. 280.56 K
 B. 273.202 K
 C. 270.95 K
 D. 265.67 K

Q.128

50.0 kg of N_2 (g) and 10.0 kg of H_2 (g) are mixed to produce NH_3 (g).



Which is the limiting reagent in the production of NH_3 in the above case ?

Ans

A. both N_2 and H_2

B. None of them

C. N_2

D. H_2

Q.129 Which of the following is a Nucleophile?

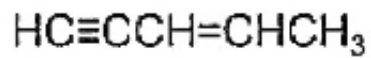
Ans A. N^+O_2

B. $\text{CH}_3-\text{C}^+=\text{O}$,

C. Cl^+

D. HS^-

Q.130 How many σ and π bonds are present in the given molecule?



- Ans
- A. 9 σ and 4 π bonds
 - B. 12 σ and 2 π bonds
 - C. 11 σ and 2 π bonds
 - D. 10 σ and 3 π bonds

Q.131 Which of the following species will have the smallest size?

- Ans
- A. Al
 - B. Al^{3+}
 - C. Mg
 - D. Mg^{2+}

Q.132

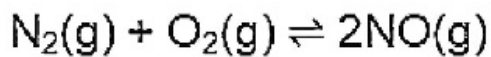
At equilibrium, the concentrations of

$$N_2 = 3.0 \times 10^{-3} M,$$

$$O_2 = 4.2 \times 10^{-3} M \text{ and}$$

$$NO = 2.8 \times 10^{-3} M$$

in a sealed vessel at 800K. What will be K_c for the reaction?



- Ans
- A. 0.226
 - B. 6.22
 - C. 0.622
 - D. 622

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Q.133 Using the Periodic Table, predict the formulas of compounds which might be formed by the following pairs of elements: aluminium and sulphur.

Ans



Q.134 A golf ball has a mass of 40g, and a speed of 45 m/s. If the speed can be measured within accuracy of 2%, calculate the uncertainty in the position?

Ans

A. 9.46×10^{-53} m

B. 1.46×10^{-33} m

C. 9.49×10^{-23} m

D. 2.89×10^{-13} m

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Q.135 Which of the following is not a method of Concentration of Ores?

Ans A. Leaching

B. Magnetic separation

C. Froth Floatation

D. Liquefaction

Q.136 Calculate the molarity of a solution containing 5 g of NaOH in 450 mL solution?

Ans

- A. 0.728 mol L^{-1}
- B. 0.278 mol L^{-1}
- C. 0.872 mol L^{-1}
- D. 0.556 mol L^{-1}

Ques

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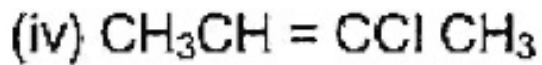
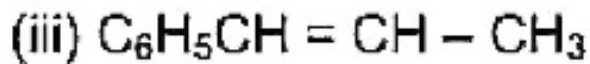
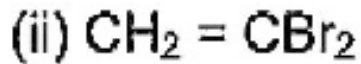
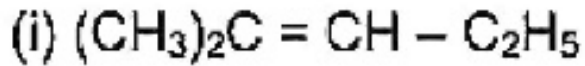
Q.137 A 100 watt bulb emits monochromatic light of wavelength 400 nm. Calculate the number of photons emitted per second by the bulb?

Ans

- A. 9.078×10^{20}
- B. 8.412×10^{25}
- C. 4.12×10^{30}
- D. 2.012×10^{20}

Q.138

Which of the following compounds will show cis-trans isomerism?



Ans A. only (ii)

B. (iii) and (iv) only

C. (i), (ii), and (iii) only

D. only (i) and (ii)

Q.139 200 cm^3 of an aqueous solution of a protein contains 1.26 g of the protein. The osmotic pressure of such a solution at 300 K is found to be 2.57×10^{-3} bar. Calculate the molar mass of the protein?

Ans

- A. $15,346 \text{ g mol}^{-1}$
- B. $30,998 \text{ g mol}^{-1}$
- C. $61,022 \text{ g mol}^{-1}$
- D. $126,065 \text{ g mol}^{-1}$

Q.140 Which of the following could be true about the factors affecting equilibria?

- Ans A. The concentration stress of a removed reactant/product is relieved by net reaction in the direction that reduces the removed substance.
- B. The equilibrium constant for an endothermic reaction decreases as the temperature increases.
- C. Catalyst does not affect the equilibrium composition of a reaction mixture.
- D. The equilibrium constant for an exothermic reaction increases as the temperature increases.

Q.141

The values of K_{sp} of two sparingly soluble salts $Ni(OH)_2$ and $AgCN$ are 2.0×10^{-15} and 6×10^{-17} respectively. Which salt is more soluble?

- Ans
- A. cannot be determined
 - B. both are equally soluble
 - C. $AgCN$
 - D. $Ni(OH)_2$

Q.142 Calculate the mass of a photon with wavelength 3.6 Å.

Ans

- A. 16.135×10^{-29} kg
- B. 8.139×10^{-29} kg
- C. 6.135×10^{-29} kg
- D. 5.335×10^{-29} kg

Q.143 Using s, p, d, f notations, describe the orbital with the following quantum numbers:
 $n = 5, l = 3$

- Ans A. 5f
 B. 5d
 C. 5s
 D. 5p

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Q.144 On complete combustion, 0.246 g of an organic compound gave 0.198g of carbon dioxide and 0.1014g of water. Determine the percentage composition of Hydrogen in the compound?

- Ans A. 0.0458
 B. 0.1066
 C. 0.0936
 D. 0.0688

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Op

Choser

Q.145 Considering the atomic number and position in the periodic table, arrange the following elements in the increasing order of metallic character : Si, Be, Mg, Na, P.

- Ans A. P < Si < Be < Mg < Na
 B. Si < P < Be < Na < Mg
 C. Si < Be < P < Na < Mg
 D. P < Si < Be < Na < Mg

Q.148

Calculate the mole fraction of water in a solution containing 20% of $C_2H_6O_2$ by mass.

- Ans
- A. 0.438
 - B. 0.876
 - C. 0.068
 - D. 0.932

Q.149

What is the covalency of Al in $AlCl(H_2O)_5]^{2+}$?

- Ans
- A. 6
 - B. 5
 - C. 3
 - D. 4

Q.150

Which of the following is the geometry of NF_3 molecule?

- Ans
- A. Trigonal-planar
 - B. Tetrahedral
 - C. Bent
 - D. Trigonal-Pyramidal

