

PROVISIONAL ANSWER KEY

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Question1:-Which of the following research types is mainly aimed at solving immediate practical problems?

A:-Basic Research

B:-Historical Research

C:-Applied Research

D:-Philosophical Research

Correct Answer:- Option-C

Question2:-In experimental research, the variable manipulated by the researcher is known as:

A:-Dependent Variable

B:-Extraneous Variable

C:-Independent Variable

D:-Intervening Variable

Correct Answer:- Option-C

Question3:-Which of the following methods belongs to qualitative research?

A:-Survey Method

B:-Case Study Method

C:-Experimental Method

D:-Correlational Method

Correct Answer:- Option-B

Question4:-A hypothesis that predicts the direction of the relationship between variables is called

A:-Null Hypothesis

B:-Non-directional Hypothesis

C:-Alternative Hypothesis

D:-Directional Hypothesis

Correct Answer:- Option-D

Question5:-Which research design is mainly used to study the relationship between two or more variables?

A:-Survey Design

B:-Correlational Design

C:-Historical Design

D:-Experimental Design

Correct Answer:- Option-B

Question6:-Which of the following variables may affect the dependent variable but is not the focus of the study?

A:-Independent Variable

B:-Dependent Variable

C:-Extraneous Variable

D:-Criterion Variable

Correct Answer:- Option-C

Question7:-Action research is primarily conducted for:

A:-Development of universal theories

B:-Immediate improvement of practices

C:-Historical documentation

D:-Testing philosophical assumptions

Correct Answer:- Option-B

Question8:-Which sampling technique gives an equal chance to every member of the population to be selected?

A:-Purposive Sampling

B:-Random Sampling

C:-Quota Sampling

D:-Snowball Sampling

Correct Answer:- Option-B

Question9:-The arithmetic average of a set of scores is known as:

A:-Mean

B:-Median

C:-Mode

D:-Range

Correct Answer:- Option-A

Question10:-Which statistical measure indicates the variability or dispersion of scores?

A:-Mean

B:-Median

C:-Mode

D:-Standard Deviation

Correct Answer:- Option-D

Question11:-Which among the following is not an attribute of a science teacher?

A:-ability to evaluate all domains of learning

B:-An expert in testing and evaluation process

C:-Rational approach

D:-Being a strict disciplinarian

Correct Answer:- Option-D

Question12:-“A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame.” Who said this?

A:-Gandhiji

B:-Rabindranath Tagore

C:-Swami Vivekananda

D:-Pestalozzi

Correct Answer:- Option-B

Question13:-Which among the following institute is organized once a year to update science teachers with the new development in content, methods and techniques of science education?

A:-SIET

B:-EDUBUNTU

C:-SITE

D:-Unitary Institute

Correct Answer:- Option-D

Question14:-IATE stands for

A:-International Association of Technical Education

B:-Indian Association of Teacher Educators

C:-International Association of Technical Experts

D:-International Association of Teacher Educators

Correct Answer:- Option-B

Question15:-Which among the following is not appropriate characteristics of professionally accountable teacher?

A:-Use diversity of resource and understand the problem

B:-Guide in a right way and update his knowledge time to time

C:-Start any work with appropriate knowledge

D:-Teach in their own style

Correct Answer:- Option-D

Question16:-The headquarters of INFLIBNET located in

A:-Gandhi Nagar

B:-Allahabad

C:-Hyderabad

D:-Delhi University Campus

Correct Answer:- Option-A

Question17:-Which of the following operating system is specially designed for educational purposes?

A:-Windows

B:-Chrome

C:-Edubuntu

D:-Android

Correct Answer:- Option-C

Question18:-Which is the main purpose of SWAYAM?

A:-To provide free online courses to students

B:-Conducts on-line certification courses on a variety of subjects

C:-Best teaching learning resources to all

D:-All the above

Correct Answer:- Option-D

Question19:-Which of the following statement is not true about Wikipedia?

A:-It comprises the perceptual collective work of many authors

B:-It allows anyone to edit, delete or modify content

C:-It does not allow visitors to change the original posted material

D:-It gives people the ability to work collaboratively on the same document

Correct Answer:- Option-C

Question20:-Which among the following is the digital multimedia encyclopedia published by Microsoft Corporation?

A:-Encyclopedia Britannica

B:-ERIC

C:-Encarta

D:-CD-ROM

Correct Answer:- Option-C

Question21:-From an ethical standpoint, what is the primary responsibility of a science teacher in fostering students' intellectual development?

A:-Ensuring students memorize all scientific formulas and definitions.

B:-Promoting scientific temper, critical thinking, and an evidence-based approach.

C:-Prioritizing students who show exceptional talent in science.

D:-Focusing only on textbook knowledge to ensure exam success

Correct Answer:- Option-B

Question22:-The principle of "objectivity" in science education aligns with which ethical value?

A:-Empathy

B:-Neutrality in assessment and evaluation

C:-Democratic pedagogy

D:-Service orientation

Correct Answer:- Option-B

Question23:-The National Professional Standards for Teachers (NPST), introduced under NEP 2020, are primarily designed to:

A:-Standardize teacher salaries across the country

B:-Define clear competencies for teachers at different career stages

C:-Reduce the number of teaching positions in schools.

D:-Mandate a specific teaching methodology for all subjects

Correct Answer:- Option-B

Question24:-Which of the following is the most effective tool for ensuring a science teacher's accountability to professional growth?

A:-Monitoring their daily attendance log

B:-Reviewing their completed Professional Development Plans (PDPs) and evidence of implementation

C:-Observing them only during surprise inspections

D:-Checking if they use the prescribed textbook chapter-by-chapter

Correct Answer:- Option-B

Question25:-What is the unique feature of SWAYAM PRABHA that distinguishes it from SWAYAM?

A:-It offers live interactive classes with professors.

B:-It provides content through 32 Direct-to-Home (DTH) television channels.

C:-It is exclusively for professional development of teachers.

D:-It requires a paid subscription for access

Correct Answer:- Option-B

Question26:-Which portal is specifically designed to provide a storehouse of e-content from states/UTs and national organizations, accessible via a mobile app?

A:-e-PG Pathshala

B:-DIKSHA

C:-INFLIBNET ILMS

D:-NCERT Journals

Correct Answer:- Option-B

Question27:-

Choose the tool, from the following which is developed in 2007, by the United Nations International

Children's Emergency Fund (UNICEF) in collaboration with Sarva Shiksha Abhiyan (SSA) for appraising the performance of teachers and Resource persons under SSA.

A:-PINDICS

B:-Advancement of Educational Performance Standard (ADEPTS)

C:-Teacher Self-Assessment Rubrics (TSAR)

D:-Teacher Appraisal

Correct Answer:- Option-B

Question28:-An educational administrator looking for peer-reviewed research articles on science pedagogy and curriculum development should primarily direct their teachers to:

A:-SWAYAM

B:-SWAYAM PRABHA

C:-ERIC (Education Resources Information Center)

D:-INFLIBNET's ILMS

Correct Answer:- Option-C

Question29:-Look at the following statements and choose the right ones about Consortium for Educational Communication (CEC).

- (i) Consortium for Educational Communication (CEC) is established in 1993.
- (ii) Educational Multimedia Research Centres (EMRCs) are working under the umbrella of CEC
- (iii) Established with the goal of addressing the needs of School Education and Higher Education
- (iv) CEC is one of the Inter University Centres set up by the University Grants Commission

A:-(i), (ii) and (iii) only

B:-(i) and (iii) only

C:-(ii) and (iii) only

D:-(i), (ii) and (iv) only

Correct Answer:- Option-D

Question30:-Choose the scheme which is NOT an institutional capacity building programme of Dept. of Science and Technology, Govt, of India

A:-FIST

B:-PURSE

C:-SAIF

D:-CSRI

Correct Answer:- Option-D

Question31:-Which among the following is TRUE about a research hypothesis?

A:-Correct answer to a research question

B:-Confirmed relationship between independent and dependent variables

C:-Best guess about the outcome of the research study

D:-Objectives expressed in research form

Correct Answer:- Option-C

Question32:-Which among the following is NOT related with Qualitative Data analysis?

A:-Collection and analysis are recursive in nature

B:-Collection and analysis of data is usually straightforward and not hectic

C:-Use of complicated statistical procedures for analysis is not required

D:-Data analysis using software is possible

Correct Answer:- Option-B

Question33:-Which among the following is/are example(s) of directional hypothesis?

(i) Doing exercise immediately before a mathematics class will result in faster learning

(ii) If students learn in small cooperative groups, then their social interaction will be more positive

(iii) There is a difference in the academic achievement of students studied through online and offline mode of classroom

A:-(i), (ii) and (iii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-D

Question34:-Which among the following is/are assumption(s) required for using a parametric test?

(i) The variances among the groups being compared should be approximately equal

(ii) Data are to be measured on an Ordinal or Nominal Scale

(iii) The data should come from a population that is normally distributed

A:-(i), (ii) and (iii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-B

Question35:-Researchers who want to study the lives of students in a tribal area is an example of

A:-Action Study

B:-Case Study

C:-Field Study

D:-Ethnographic Study

Correct Answer:- Option-D

Question36:-Which among the following is most appropriate with a Quasi-experimental Research?

A:-Research involving the use of a manipulated independent variable without the random assignment of participants to groups

B:-Non- intervention research aimed at uncovering relationships by comparing groups of people who already differ on a variable of interest

C:-Research involving the use of a manipulated independent variable coupled with random assignment of participants to groups

D:-

Non- intervention research using one of several designs that measure individual differences in an attempt to uncover relationship between variables

Correct Answer:- Option-A

Question37:-Which among the following is an example of Primary Source Literature?

A:-Research articles

B:-Handbooks

C:-Textbooks

D:-Wikipedia

Correct Answer:- Option-A

Question38:-Which among the following is/are appropriate related with a qualitative research?

(i) It frequently allow a hypothesis to emerge after exploration, observation, or interaction in a natural setting

(ii) Usually base their conclusions on multiple sources of evidence

(iii) Is largely deductive in nature

A:-(i), (ii) and (iii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-D

Question39:-Which of the following is/are best describes the primary purpose of research?

- (i) To establish pre-existing beliefs and opinions.
- (ii) To systematically investigate phenomena to establish facts, principles, or theories.
- (iii) To address areas in which little is known.

A:-(i), (ii) and (iii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-C

Question40:-

A study aims to explore the lived experiences of students in a blended classroom environment. Which type of educational research is most appropriate for this objective?

A:-Experimental Research

B:-Descriptive Research

C:-Longitudinal Research

D:-Exploratory Research.

Correct Answer:- Option-B

Question41:-Which of the following is/are characteristics of a good research?

- (i) Originate with a question or a problem.
- (ii) Follow a specific plan of procedure.
- (iii) Accept certain critical assumptions.

A:-(i), (ii) and (iii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-A

Question42:-A research design, in which a group of people identifies a problem, takes some action to resolve it, sees how successful its efforts were and, if not satisfied, try again is known as

A:-Observational Research

B:-Collaborative Research

C:-Experimental Research

D:-Action Research

Correct Answer:- Option-D

Question43:-Any variable external to a research situation that is impacting the research and requires control so that its influence is neutralised is

A:-Dependent variable

B:-Independent variable

C:-Extraneous variable

D:-Confounding variable

Correct Answer:- Option-C

Question44:-Which among the following is NOT a characteristic of Experimental Design?

A:-Data collected using structured research tools

B:-Depends primarily on collection of non-numeric data

C:-Random selection of sample into groups

D:-Study the cause and effect relationship between variables

Correct Answer:- Option-B

Question45:-The "Discussion" section of a research report typically involves

(i) The narrative presentation of the findings of the research

(ii) Interpretation of results

(iii) The findings of the research should be compared and contrasted with those of previous studies presented in the literature review

A:-(i), (ii) and (iii)

B:-(i) and (ii)

C:-(ii) and (iii)

D:-(i) and (iii)

Correct Answer:- Option-C

Question46:-Identify the incorrectly matched pair:

A:-Gender — Nominal scale

B:-Temperature in Kelvin — Ratio scale

C:-Exam rank — Interval scale

D:-Eye colour — Nominal scale

Correct Answer:- Option-C

Question47:-Which of the following operations is **not meaningful** for data measured on an interval scale?

A:-Addition

B:-Subtraction

C:-Finding the mean

D:-Calculating ratios

Correct Answer:- Option-D

Question48:-In a histogram, the area of each rectangle represents:

A:-Class interval only

B:-Frequency only

C:-Both class interval and frequency

D:-Midpoint of the class

Correct Answer:- Option-C

Question49:-Which graphical representation is most suitable for showing the composition of total expenditure among different sectors?

A:-Histogram

B:-Frequency polygon

C:-Pie diagram

D:-Ogive

Correct Answer:- Option-C

Question50:-Which measure of central tendency cannot be determined graphically?

A:-Median

B:-Mode

C:-Arithmetic Mean

D:-All of the above

Correct Answer:- Option-C

Question51:-The average speed for a journey from A to B at 40 km/h and return journey from B to A at 60 km/h is:

A:-45 km/h

B:-48 km/h

C:-50 km/h

D:-52 km/h

Correct Answer:- Option-B

Question52:-Two numbers are in the ratio 3:5. If their harmonic mean is 7.5, their arithmetic mean is:

A:-4

B:-8

C:-6

D:-3.75

Correct Answer:- Option-B

Question53:-

Choose the correct option regarding the following

Assertion (A): Range is the most reliable measure of dispersion.

Reason (R): Range uses only the largest and smallest observations.

A:-Both Assertion and Reason are true, and Reason is the correct explanation of Assertion

B:-Both Assertion and Reason are true, but Reason is NOT the correct explanation of Assertion

C:-Assertion is true, but Reason is false

D:-Assertion is false, but Reason is true

Correct Answer:- Option-D

Question54:-Which measure of dispersion is least affected by extreme values?

A:-Standard deviation

B:-Range

C:-Quartile deviation

D:-Variance

Correct Answer:- Option-C

Question55:-When the correlation coefficient is zero, the regression lines are:

A:-Coincident

B:-Parallel

C:-Perpendicular

D:-Horizontal

Correct Answer:- Option-C

Question56:-The empirical relation between quartile deviation and (QD) and mean deviation from mean (MD) is

A:- $6 \text{ QD} = 5 \text{ MD}$

B:- $5 \text{ QD} = 6 \text{ MD}$

C:- $3 \text{ QD} = 6 \text{ MD}$

D:- $6 \text{ QD} = 3 \text{ MD}$

Correct Answer:- Option-A

Question57:-In ANOVA, the F-ratio is computed as:

A:-Within-group variance / Between-group variance

B:-Total variance / Error variance

C:-Between-group variance / Within-group variance

D:-Mean / Standard deviation

Correct Answer:- Option-C

Question58:-In a one-sample t-test, the null hypothesis usually states that:

- A:-Population variance is Zero
- B:-Sample mean equals population mean
- C:-Population mean equals a specified value
- D:-Two sample means are different

Correct Answer:- Option-C

Question59:-In a chi-square test for association, the null hypothesis generally states that

- A:-There is no association between the variables
- B:-There is an association between the variables
- C:-The variables are dependent
- D:-None of the above

Correct Answer:- Option-A

Question60:-Rank correlation is mainly used when data are

- A:-Nominal
- B:-Ordinal
- C:-Continuous only
- D:-Grouped only

Correct Answer:- Option-B

Question61:-The time between the formation of successive leaf primordia, and during which these changes in size and form occur is called

- A:-Plastoderm
- B:-Plastochron
- C:-Mersitoderm
- D:-Meristochron

Correct Answer:- Option-B

Question62:-A branching diagram in which the lineages of three or more taxa arise from a single hypothetical ancestor

A:-Polytomy

B:-Heterotomy

C:-Polytaxon

D:-Polynetwork

Correct Answer:- Option-A

Question63:-Select the statement made under point number 10. of ICBN rules

A:-Scientific names of taxonomic groups are treated as Latin regardless of their derivation

B:-Botanical nomenclature is independent of zoological nomenclature.

C:-latest edition of the Code supersedes all previous editions.

D:-bring about greater uniformity and clearness, especially in future nomenclature

Correct Answer:- Option-C

Question64:-What is the standard size of a Herbarium sheet?

A:-28.75 by 41.25 cm

B:-28.80 by 42.25 cm

C:-29.75 by 43.25 cm

D:-30.75 by 45.25 cm

Correct Answer:- Option-A

Question65:-Angiosperm tracheids which are involved in water transport

A:-Fiber tracheids

B:-Libriform fibers

C:-Vasicentric tracheids

D:-All of the above

Correct Answer:- Option-C

Question66:-The type of stomata seen in the members of Brassicaceae are

A:-Tetracytic

B:-Cyclocytic

C:-Diacytic

D:-Anisocytic

Correct Answer:- Option-D

Question67:-Among the families mentioned which family have inferior ovary

A:-Caryophyllaceae

B:-Cactaceae

C:-Urticaceae

D:-Euphorbiaceae

Correct Answer:- Option-B

Question68:-

$Br, Br_1, \oplus, \ominus K_{3-5 \text{ or } (3-5)}, C_5, A_{5+(5)}, G_{\underline{(2-5)}}$

Based on the given general floral formula, find the family

A:-Malvaceae

B:-Fabaceae

C:-Poaceae

D:-Sterculiaceae

Correct Answer:- Option-D

Question69:-Extensive ingrowths of the primary cell wall leads to the formation of

A:-Bulliform cells

B:-Transfer cells

C:-Casparian thickening

D:-Secondary thickening

Correct Answer:- Option-B

Question70:-The provascular strands and the vascular cambium and its immature derivatives comprise the major pathways for the polar transport of which hormone,

A:-IAA

B:-Kinetin

C:-2,4_D

D:-BA

Correct Answer:- Option-A

Question71:-An artificial seed

A:-Somatic embryo

B:-Somatic embryo enclosed in sodium alginate

C:-Somatic embryo enclosed in soil

D:-Somatic embryo enclosed in calcium alginate

Correct Answer:- Option-D

Question72:-Applications of in vitro pollination

- (i) Develop hybrids that cannot be produced by normal sexual reproduction
- (ii) Develop progeny in self-incompatible plants
- (iii) Develop virus-free plants
- (iv) To develop GM crops

Find most suitable answers

A:-(i)

B:-(i) and (ii)

C:-(i), (ii) and (iii)

D:-(ii) and (iv)

Correct Answer:- Option-B

Question73:-Scorable marker genes used for gene transfer in plants

- (i) *lux* and GFP
- (ii) *lux*, *bar*, *dhfr* and *lac Z*
- (iii) *lacZ* and *nos*
- (iv) *nptII* and *nos*

A:-(i)

B:-(ii) and (iii)

C:-(iii) and (iv)

D:-(i) and (iii)

Correct Answer:- Option-D

Question74:-Match the following

A

B

- (i) Action spectrum (a) Primary light-harvesting antennae for photosystem II in cyanobacteria
(ii) Phycobilisomes (b) Pigments collecting light and transferring the energy to the reaction center complex
(iii) Photosystem I (c) Magnitude of a response of a biological system to light as a function of wavelength
(iv) Antenna complex (d) Absorbs far-red light

A:-(i)-(c), (ii)-(d), (iii)-(b), (iv)-(a)

B:-(i)-(c), (ii)-(a), (iii)-(d), (iv)-(b)

C:-(i)-(a), (ii)-(c), (iii)-(b), (iv)-(d)

D:-(i)-(d), (ii)-(c), (iii)-(a), (iv)-(b)

Correct Answer:- Option-B

Question75:-Find the most correct statements

- (i) C₄ cycle is generally found in leaves of plants whose vascular tissues are surrounded by two distinctive photosynthetic cell types: bundle sheath cells, and mesophyll cells
(ii) C₃ photosynthesis is used by some land plants to compensate for limitations associated with the low level of atmospheric CO₂
(iii) In CAM plants, stomata are open during the day time and CO₂ is captured and stored as malate in the vacuole
(iv) Increasing intracellular CO₂ to the concentration at which photosynthesis and respiration balance each other defines the CO₂ compensation point

A:-(iii), (iv)

B:-(i), (iii), (iv)

C:-(i), (iv)

D:-(i), (ii)

Correct Answer:- Option-C

Question76:-A precursor for IAA biosynthesis

A:-Oxalic acid

B:-Indole-3-acetic acid

C:-Inositol

D:-Indole-3-glycerol phosphate

Correct Answer:- Option-D

Question77:-Chaperone protein

A:-Auxin

B:-Heat shock protein

C:-Lactate dehydrogenase

D:-Collagen protein and Heat shock proteins

Correct Answer:- Option-B

Question78:-Match A with B

A

B

- | | |
|-----------------------------|-------------------------------|
| (i) Citrus Canker | (a) Phytophthora palmivora |
| (ii) Crown Gall | (b) Xanthomonas citri |
| (iii) Sheath Blight in rice | (c) Agrobacterium tumefaciens |
| (iv) Bud Rot in Coconut | (d) Rhizoctonia solani |

A:-(i)-(b), (ii)-(d), (iii)-(a), (iv)-(c)

B:-(i)-(b), (ii)-(c), (iii)-(a), (iv)-(d)

C:-(i)-(c), (ii)-(b), (iii)-(a), (iv)-(d)

D:-(i)-(b), (ii)-(c), (iii)-(d), (iv)-(a)

Correct Answer:- Option-D

Question79:-A condition in hermaphrodite flowers where the stamens and carpels of a flower do not mature at the same time

A:-Dichogamy

B:-Diclity

C:-Anemophily

D:-Herkogamy

Correct Answer:- Option-A

Question80:-Find the correct statement/Statements

- (i) Aleurone cells are absent in rice
- (ii) Scutellum is a specialized monocot cotyledon
- (iii) Cocos nucifera has ruminant endosperm

(iv) Ruminant endosperm is present in Myristica

A:-(i) and (iv)

B:-(ii) and (iv)

C:-(i) and (ii)

D:-(ii) and (iii)

Correct Answer:- Option-B

Question81:-Which of the following correctly matches the level of organization with the example animal?

A:-Cellular - Hydra

B:-Tissue - Leech

C:-Cellular - Sycon

D:-Organ - Ctenophora

Correct Answer:- Option-C

Question82:-The osphradium of a freshwater mollusc is an invaluable sensory adaptation. What is its principal function?

A:-To act as a statocyst

B:-To test the chemical nature of water

C:-To detect changes in light intensity

D:-To secrete the mucous trail

Correct Answer:- Option-B

Question83:-Which developmental pathway explains why Echinoderms are grouped closer to Chordates than to Arthropods or Molluscs?

A:-Spiral and determinate cleavage; blastopore forms the mouth

B:-Radial cleavage; blastopore forms the anus

C:-Superficial cleavage; blastopore forms the mouth

D:-Asymmetry in larvae and bilateral symmetry in adults.

Correct Answer:- Option-B

Question84:-The water vascular system of *Asterias* runs on a precise Pathway. Trace the exact pathway.

A:-Madreporite - Stone canal - Ring canal - Radial canal - Lateral canal - Tube feet

B:-Tube feet - Lateral canal - Radial canal - Ring canal - Stone canal - Madreporite

C:-Madreporite - Ring canal - Stone canal - Radial canal - Tube feet - Ampulla

D:-Madreporite - Osculum - Choanocyte chamber- Radial canal - Ampulla

Correct Answer:- Option-A

Question85:-Consider the following statements regarding the epipubic bones.

- (i) Epipubic bones are specialized skeletal projections in monotremes
- (ii) The primary function of epipubic bones is to support the uterus
- (iii) Epipubic bones help in Locomotion and Trunk Support
- (iv) Advanced mammals completely lack epipubic bones.

Which of the combinations given below contains only correct statements?

A:-(i) and (ii) only

B:-(i), (iii) and (iv) only

C:-(ii), (iii), and (iv) only

D:-(i), (ii), (iii) and (iv)

Correct Answer:- Option-B

Question86:-Consider the following statements regarding Jacobson's organ:

- (i) It functions as an accessory olfactory organ specialized for the detection of pheromones and environmental scent.
- (ii) It reaches its highest evolutionary development within Aves to assist in high-altitude atmospheric navigation.
- (iii) In snakes and lizards, it actively samples air particles.
- (iv) Marine mammals, salinity changes in deep ocean currents.

Which of the combinations given below contains only correct statements?

A:-(i) and (ii) only

B:-(i) and (iii) only

C:-(ii) and (iv) only

D:-(i), (iii), and (iv) only

Correct Answer:- Option-B

Question87:-Inulin is a polymer of

A:-Glucose

B:-Fructose

C:-Galactose

D:-Mannose

Correct Answer:- Option-B

Question88:-Consider the following statements regarding Hemoglobin:

(i) Hemoglobin is a conjugated protein.

(ii) The iron atom within must remain strictly in the ferric state.

(iii) It exhibits a highly organized quaternary structure.

(iv) The binding of the first oxygen molecule to a hemoglobin subunit induces a conformational transition decreasing the oxygen affinity.

Which of the combinations given below contains only correct statements?

A:-(i) and (ii) only

B:-(i) and (iii) only

C:-(ii), (iii) and (iv) only

D:-(i), (ii), (iii), and (iv)

Correct Answer:- Option-B

Question89:-Palindromic sequences in DNA are recognized by:

A:-DNA polymerase

B:-Restriction enzymes

C:-RNA polymerase

D:-Helicase

Correct Answer:- Option-B

Question90:-Which process produces maximum ATP?

A:-Glycolysis

B:-Krebs cycle

C:-Oxidative phosphorylation

D:-Substrate-level phosphorylation

Correct Answer:- Option-C

Question91:-Which of the following migratory bird species was officially declared extinct in 2024 by IUCN without a confirmed sighting for decades?

A:-Sarus crane

B:-Siberian Crane

C:-Slender-billed Curlew

D:-Great Indian Bustard

Correct Answer:- Option-C

Question92:-The inverted biomass pyramid in a lake ecosystem can happen mainly due to

A:-Large number of fishes

B:-Absence of decomposers

C:-Low productivity of producers

D:-Rapid reproduction of phytoplankton

Correct Answer:- Option-D

Question93:-The reciprocal of the Berger-Parker index is often used as a measure of:

A:-Dominance

B:-Diversity

C:-Biomass

D:-Productivity

Correct Answer:- Option-B

Question94:-An insect species survives only within a narrow temperature range and specific humidity conditions. This species is best described as:

A:-Stenotopic

B:-Endemic

C:-Eurytopic

D:-Cosmopolitan

Correct Answer:- Option-A

Question95:-Pneumatophores found in mangrove plants are primarily an adaptation to:

A:-Increase seed production

B:-Resist herbivory

C:-Improve seed dispersal

D:-Waterlogged. oxygen-poor soil conditions

Correct Answer:- Option-D

Question96:-Select the Situation with highest species richness :

A:-A plot with 100 birds belonging to 10 Species

B:-A plot with 50 birds belonging to 13 Species

C:-A plot with 200 birds belonging to 9 Species

D:-A plot with 10 birds belonging to 10 species

Correct Answer:- Option-B

Question97:-Which of the following greenhouse gases has the highest global Warming potentials?

A:-Carbon dioxide

B:-Methane

C:-Sulfur hexafluoride (SF₆)

D:-Oxygen

Correct Answer:- Option-C

Question98:-If a city replaces diesel buses with electric public transport. this primarily represents

A:-Climate adaptation

B:-Ecological restoration

C:-Habitat fragmentation

D:-Climate mitigation

Correct Answer:- Option-D

Question99:-Select the scenario that best represents high alpha diversity but low beta diversity

A:-Many species within habitats, similar composition across habitats

B:-Few species within habitats, major differences among habitats

C:-Few species everywhere

D:-Different ecosystems with identical environmental conditions

Correct Answer:- Option-A

Question100:-The Intergovernmental Panel on Climate Change (IPCC) is established Jointly by

A:-UNESCO and FAO

B:-UNEP and WMO

C:-WHO and UNDP

D:-UNICEF and UNEP

Correct Answer:- Option-B