## Computer Based Examination System

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| :---: | :---: |
| Title * | Question Paper Answer Key |
| OES Exam * | GPSC12202225 / Assistant Professors in Government College in Botany/ Completed / 2023-04-01 |
| 1 Question Description | Peculiar characteristic of Chytridiomycetes fungi is___. |
| A | It has unicellular motile cells with whiplash flagellum |
| B | It produces biflagellate zoospore with both tinsel and whiplash flagellum |
| C | It has motile cells with two anterior whiplash flagella |
| D | It does not produce any motile cells |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |


| 2 | Question Description | In protein synthesis, translocation is initiated with the movement of |
| :---: | :---: | :---: |
|  | A | tRNA from P-site to the A-site |
|  | B | dipeptidyl tRNA from A-site to P-site |
|  | C | tRNA from A-site to P-site |
|  | D | tRNA from P-site to E-site |
|  | E | None of the above |
|  | Correct Answer | B |
|  | Marks | 1 |
| 3 | Question Description | The bread wheat is |
|  | A | diploid |
|  | B | hexaploid |
|  | C | tetraploid |
|  | D | triploid |
|  | E | None of the above |
|  | Correct Answer | B |
|  | Marks | 1 |



| 6 | Question Description | Bayer's junctions are sites which help in joining which of the following? |
| :---: | :---: | :---: |
|  | A | Cytoplasmic membrane and outer membrane |
|  | B | Outer membrane and capsule |
|  | C | Cytoplasmic membrane and periplasmic space |
|  | D | Peptidoglycan layer and cytoplasmic membrane |
|  | E | None of the above |
|  | Correct Answer | A |
|  | Marks | 1 |
| 7 | Question Description | Reduction of NADP occurs in |
|  | A | Oxidative photophosphorylation |
|  | B | Cyclic photophosphorylation |
|  | C | Non-cyclic photophosphorylation |
|  | D | Both A \& B |
|  | E | None of the above |
|  | Correct Answer | C |
|  | Marks | 1 |



The desmosomes are concerned with

A

Correct Answer
Marks

## 11 Question Description

A

B

C

D

E

## Correct Answer

Marks

Which of the following plant virus have icosahedral twinned particle structure?

Tobacco mosaic virus

Geminivirus

Cowpea Chlorotic mottle virus

Cucumber mosaic virus

None of the above

B

1

## Question Description

A

B

## Correct Answer

Marks

Which of the following has non-flagellated gametes?

## Spirogyra

Chlamydomonas

Volvox

Fucus

None of the above

A

1

## Correct Answer

## Marks

While planning a development project, EIA is frequently required where
(a). Very minor environmental effects are anticipated.
(b). There is the possibility of transboundary influence.
(c). The initiative is expected to affect many individuals.
(d). No cumulative effects are projected.
(e). There are protected areas in the project's impact region.

Choose the correct combinations

B, C and E only

A, B and D only

B and D only

C, D and E only

None of the above

A

1

## Question Description

A

B

C

D

E

Correct Answer
Marks

15

Which is a incorrect statement

Hydrogen bond is a covalent bond between hydrogen atom covalently bounded to a electronegative atoms such as N and O to another electronegative atom

High specific heat and heat of vapourization of water help plants in prevent excess water loss during summer

Auaporins are integral membrane protein to facilitate osmosis

Phospholipids in a membrane can have various kinds of movements such as bobbing flip-flop and flexion.

None of the above

A

1

Which is a incorrect statement

Nitrogenase and nitrate reductase both are Mo containing proteins.

Nod genes are present on plants

Uncompetitive inhibitor binds to enzyme-substrate complex therefore more substrate we add more inhibition it willcause

Uncompeteive inhibitors will change both Km and Vmax value.

None of the above

B
1

| 16 | Question Description | Members of order Dasycladales can be identified with |
| :---: | :---: | :---: |
|  | A | Asymmetric thallus |
|  | B | Bilaterally symmetrical Thallus |
|  | C | Radial symmetrical thallus |
|  | D | All of the above |
|  | E | None of the above |
|  | Correct Answer | C |
|  | Marks | 1 |
| 17 | Question Description | Hyphal coils within the cortex cells are formed in which of the following fungi? |
|  | A | Ericoid mycorrhiza |
|  | B | Ectomycorrhiza |
|  | C | Orchid mycorrhiza |
|  | D | Arbuscular mycorrhiza |
|  | E | None of the above |
|  | Correct Answer | D |
|  | Marks | 1 |

## Question Description

A

B

C

D

E

Correct Answer
Marks

19 Question Description

A

B

C

## D

E

## Correct Answer

Marks

Which is a incorrect statement

A plasmid vector should essentially have origin of replication, multiplecloning site and selective marker

Genomic library stores a representative of all the gene present including introns but without upstream and downstream sequences

Dideoxy method of gene sequencing is also known as gene termination method

PCR was developed by Kerry Mulis and has a main function of amplifying a fragment of DNA define by primers.

None of the above

B
1

Transgenic plants overexpressing QB protein of photosystem II from Amaranthus has resulted in

Plants with Atrazine resistance

Plants with insect resistance

Plants with higher photosynthetic ability and yield

Fruits with increased shelf life

None of the above

A
1

## Question Description

A

B

C

D

E

Correct Answer
Marks

Ammonification is the formation of

Ammonia from nitrates by decomposers

Ammonia from nitrogen

Ammonia from amino acids

Ammonia from nitrates by nitrogen fixers

None of the above

C

1

## 21 Question Description

A

B

C

D

E

Correct Answer B
Marks
D

B

1

Mitochondrial DNA is one of the best marker tools for population Biologist and Evolutionary Biologist because

Mitochondrial genes are specific to mitochondria

Absence of genetic recombination in mitochondria

Mitochondrial DNA can be easily isolated

MtDNA undergoes spontaneous mutation

None of the above


## Question Description

A

Correct Answer
Marks

25

## Question Description

A

B

C

D

E

Correct Answer
Marks

Diseases caused by pleiotropic genes are

Syndromes

Reversible by diet therapy

Reversible by gene therapy

Extremely rare

None of the above

A
1

Find the incorrect statement

Agar-agar is produced from Gracilaria

Chlorella is used in space food

Mannitol is a food reserve of Rhodophyceae

Algin is produced by algae

None of the above

C
1

## Correct Answer <br> D

Marks

Which is a incorrect statement

Agrobacterium is a gram negative bacteria containing Ti plasmid is a indirect method of transformation in plants.

Ti plasmid contain T-DNA, vir region and OR

Vir region contain multiple operons which are not essential for the transfer of T-DNA to host

Agrobacterium secrete acetosyringone, a phenolic compound to facilitate its coloniation of plants.

None of the above

1

Assertion (A): Classification is the systematic arrangement of a plant or collection of plants into identical categories using a wellestablished naming system.
Reason (R): All the modern systems of classification are artificial.

A is false but $R$ is true

Both A and B are false

Both, A and R , are true but R is not the correct explanation of A

Both, A and R , are true and R is the correct explanation of A

None of the above

B
Marks 1

| Question Description | Statement 1: Taxonomy has been divided into four level alpha, beta, gamma and delta <br> Statement 2: Taxonomic research dealing with the biological features of taxa, including intraspecific groupings, speciation, and <br> evolutionary dynamics is beta taxonomy |
| :--- | :--- |
| A | Both statement 1 and 2 are true |
| B | Both statement 1 and 2 are false |
| C | Statement 1 is true and 2 is false |
| D | Statement 1 is false and 2 is true |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |



| 32 | Question Description | Which is not a correct statement |
| :---: | :---: | :---: |
|  | A | Restriction nuclease type II is most common restriction enzyme to cut DNA in recombinant DNA technology. |
|  | B | A restriction enzyme cut the DNA at a random position after recognising its restriction site. |
|  | C | Methylation of nitrogen bases prevent the restriction nuclease to cut the DNA |
|  | D | Methylation of nucleotides take place only at adenocine and cytocine. |
|  | E | None of the above |
|  | Correct Answer | B |
|  | Marks | 1 |
| 33 | Question Description | Downy mildews are caused by the members of |
|  | A | Erysiphales |
|  | B | Taphrinales |
|  | C | Ustilaginales |
|  | D | Peronosporales |
|  | E | None of the above |
|  | Correct Answer | D |
|  | Marks | 1 |



| 36 | Question Description | What is the UNFCCC's primary goal? |
| :---: | :---: | :---: |
|  | A | Decrease GHG emissions. |
|  | B | Reduce Ozone gas depletion |
|  | C | Limiting "dangerous" human influence with the climate system. |
|  | D | All of the above |
|  | E | None of the above |
|  | Correct Answer | C |
|  | Marks | 1 |
| 37 | Question Description | How many conferences of parties ( COPs ) have been held till date? |
|  | A | 22 |
|  | B | 23 |
|  | C | 24 |
|  | D | 27 |
|  | E | None of the above |
|  | Correct Answer | D |
|  | Marks | 1 |


| 38 | Question Description | During Agrobacterium mediated transformation which T-DNA sequence is required for efficient TDNA transfer? |
| :---: | :---: | :---: |
|  | A | 12bp regulatory sequence |
|  | B | Vir D operon sequence |
|  | C | Overdrive sequence |
|  | D | 3'-end sequence of T-DNA |
|  | E | None of the above |
|  | Correct Answer | C |
|  | Marks | 1 |
| 39 | Question Description | The zigzag appearance of chromatin is due to? |
|  | A | Nucleosome |
|  | B | Histone core |
|  | C | Linker DNA |
|  | D | Histone H1 |
|  | E | None of the above |
|  | Correct Answer | D |
|  | Marks | 1 |


|  | Which of the following parts of the mRNA determines the specificity of the amino acid <br> attached? <br> A. Acceptor stem <br> B. D loop <br> C. YU loop <br> D. Variable loop |
| :--- | :--- | :--- | :--- |
| A | A |
| B | B |
| C | C |
| D | D |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |


| 41 | Question Description | Two species that are not closely related and have few structural similarities can still be positioned on the same phylogenetic tree by comparing their |
| :---: | :---: | :---: |
|  | A | homologous genes that are highly conserved |
|  | B | mitochondrial genomes |
|  | C | substantially conserved homologous genes |
|  | D | chloroplast genomes |
|  | E | None of the above |
|  | Correct Answer | A |
|  | Marks | 1 |
| 42 | Question Description | Which is a correct statement |
|  | A | DNA polymerase I fill missing nucleotides in a DS DNS without replacing the existing nucleotides |
|  | B | Klenow fragments fill missing nucleotides in a DS DNA and replaces existing nucleotides |
|  | C | Adaptor molecule is a 12-20 nucleotide long molecule containing a restriction site to be used to create sticky end for better ligation. |
|  | D | Alkaline phosphatase remove phosphate group and add OH group at 5' position |
|  | E | None of the above |
|  | Correct Answer | D |
|  | Marks | 1 边 |

## Question Description

A

Correct Answer
Marks

44 Question Description

A

B

C

## Correct Answer

Marks

Which is a correct statement

Dissolved salt increase the solute potential

In an open system turgor will never be zero

Increase in the membrane elasticity will decrease the solute potential

Lowering of soil temperature will decrease the viscosity of water.

None of the above

C

1

| Question Description | Which is a correct answer |
| :--- | :--- |
| A | By point mutation a protein can be truncated, modified by a single amino acid or modified completely at C-terminal beyond the <br> mutation. |
| B | RNAi is a natural process of pre transcriptional gene silencing |
| C | Antisense technique is a method to inhibit or down regulate the production of protein by preventing replication of DNA. |
| D | CRISPR-Cas9 is a natural process of post transcriptional gene silencing in eukaryotic system. |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |

A

## Correct Answer

Marks

DNA polymerase

Helicase

SSB

Tus protein

None of the above

D
1

Which of these subunits of RNA polymerase is totally required to initiate transcription?
A. alpha ( $\alpha$ )
B. sigma ( $\sigma$ )
C. omega $(\omega)$
D. beta ( $\beta$ )

None of the above

Correct Answer B
Marks

A

## Correct Answer

Marks

## Prophase I

Metaphase II

Anaphase I

Telophase

None of the above

A

1

## Correct Answer

Marks

The word landscape process refers to the following in landscape ecological studies:
(a) the exchange of resources and energy
(b) Organism exchange or migration
(c) Patch, matrix, and corridor
(d) Porousness

Choose correct combination(s)
(a) only
(a) and (b) only
(a), (b) and (c) only
(a), (b), (c) and (d)

None of the above

B
1

## Question Description

A

B

## Correct Answer

Marks

Potato spindle tuber disease is caused by which of the following causal organism?

Mycoplasmas

Viruses

Viroids

Prions

None of the above

C
1

## Which is a incorrect statement

$\mathrm{H}^{+}$-ATPase and $\mathrm{Na}^{+} / \mathrm{K}^{+}$-ATPAse are electroneutral and electrogenic pumps to actively transport ions.

Crop yield is limited by the most deficient nutrient and the limiting nutrient is changeable

If essential element is relatively mobile the deficient symptoms generally appear in young leaves.

Leg-heamoglobin is a protein present in rhizobia to supply oxygen to plasma membrane of bacteroids for electron transport.

None of the above

C
1

| Comprehension | Read the passage and answer the questions below: <br> We can break mountains apart; we can drain the rivers and flood the valleys. We can turn the most luxurious forests into throwaway <br> paper products. We can tear apart the great grass cover of the western plains and pour toxic chemicals into the soil and pesticides <br> onto the fields until the soil is dead and blown away in the wind. We can pollute air with acids, rivers with sewage, the sea with oil- <br> all this with an intoxication with our power for devastation at an order of magnitude beyond all reckoning. We can invent computers <br> capable of processing ten million calculations per second. And why? To increase the volume and speed with which we move natural <br> resources through the consumer economy to the junk pile or waste heap. |
| :--- | :--- |
| Question Description | Identify a word or phrase from the options given below which implies "being overcome with" |
| A reckoning |  |
| B | magnitude |
| C | intoxication |
| D | luxurious |
| E None of the above |  |
| Correct Answer | C |
| Marks |  |


| Comprehension | Read the passage and answer the questions below: <br> We can break mountains apart; we can drain the rivers and flood the valleys. We can turn the most luxurious forests into throwaway paper products. We can tear apart the great grass cover of the western plains and pour toxic chemicals into the soil and pesticides onto the fields until the soil is dead and blown away in the wind. We can pollute air with acids, rivers with sewage, the sea with oilall this with an intoxication with our power for devastation at an order of magnitude beyond all reckoning. We can invent computers capable of processing ten million calculations per second. And why? To increase the volume and speed with which we move natural resources through the consumer economy to the junk pile or waste heap. |
| :---: | :---: |
| Question Description | Identify from the options provided below, the expression used to convey the damage directly caused to nature and environment |
| A | devastation |
| B | waste heap |
| C | beyond all reckoning |
| D | junk pile |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |


| Comprehension | Read the passage and answer the questions below: <br> We can break mountains apart; we can drain the rivers and flood the valleys. We can turn the most luxurious forests into throwaway paper products. We can tear apart the great grass cover of the western plains and pour toxic chemicals into the soil and pesticides onto the fields until the soil is dead and blown away in the wind. We can pollute air with acids, rivers with sewage, the sea with oilall this with an intoxication with our power for devastation at an order of magnitude beyond all reckoning. We can invent computers capable of processing ten million calculations per second. And why? To increase the volume and speed with which we move natural resources through the consumer economy to the junk pile or waste heap. |
| :---: | :---: |
| Question Description | "To increase the volume and speed with which we move natural resources through the consumer economy to the junk pile or waste heap". This statement is an indictment of |
| A | superfast computers |
| B | insensitive consumerism |
| C | natural resources |
| D | junk pile or waste heap |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |


| Comprehension | Read the passage and answer the questions below: <br> We can break mountains apart; we can drain the rivers and flood the valleys. We can turn the most luxurious forests into throwaway paper products. We can tear apart the great grass cover of the western plains and pour toxic chemicals into the soil and pesticides onto the fields until the soil is dead and blown away in the wind. We can pollute air with acids, rivers with sewage, the sea with oilall this with an intoxication with our power for devastation at an order of magnitude beyond all reckoning. We can invent computers capable of processing ten million calculations per second. And why? To increase the volume and speed with which we move natural resources through the consumer economy to the junk pile or waste heap. |
| :---: | :---: |
| Question Description | From the phrases listed below, select the one which is used in the passage in a non-destructive sense by itself |
| A | drain the rivers |
| B | break mountains |
| C | invent computers |
| D | flood the valleys |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |


| Comprehension | Read the passage and answer the questions below: <br> We can break mountains apart; we can drain the rivers and flood the valleys. We can turn the most luxurious forests into throwaway <br> paper products. We can tear apart the great grass cover of the western plains and pour toxic chemicals into the soil and pesticides <br> onto the fields until the soil is dead and blown away in the wind. We can pollute air with acids, rivers with sewage, the sea with oil- <br> all this with an intoxication with our power for devastation at an order of magnitude beyond all reckoning. We can invent computers <br> capable of processing ten million calculations per second. And why? To increase the volume and speed with which we move natural <br> resources through the consumer economy to the junk pile or waste heap. |
| :--- | :--- |
| Question Description | Identify from the options given below, the one that indicates "harmful substances, used to protect food crops from destruction" |
| Atoxic chemicals |  |
| B pesticides |  |
| C | sewage |
| D | acids |
| E None of the above |  |
| Correct Answer | 1 |


| Question Description | How many Lok Sabha seats belong to Rajasthan? |
| :--- | :--- | :--- |
| A | 32 |
| C | 25 |
| D | 30 |
| E | 17 |
| Correct Answer | None of the above |
| Marks | B |
| A | Where is India's first Geological Park going to be built? |
| B Description | Bhopal |
| C | Shivpuri |
| Marrect Answer | Sagar |


| 58 | Question Description | Which state defeated Maharashtra to win the Senior Women's 13th National Hockey Championship 2023? |
| :---: | :---: | :---: |
|  | A | Uttar Pradesh |
|  | B | Madhya Pradesh |
|  | C | Himachal Pradesh |
|  | D | Arunachal Pradesh |
|  | E | None of the above |
|  | Correct Answer | B |
|  | Marks | 1 |
| 59 | Question Description | When is World Unani Day observed every year? |
|  | A | February 10 |
|  | B | February 11 |
|  | C | February 05 |
|  | D | February 08 |
|  | E | None of the above |
|  | Correct Answer | B |
|  | Marks | $1$ |

60 Question Description

A

Correct Answer
Marks

61 Question Description

## Correct Answer

Marks

On which state highway was the world's first bamboo crash barrier installed?

Rajasthan

Assam

Maharashtra

Gujarat

None of the above

C
1

## Which countries lead the International Biofuels Alliance?

India, Brazil, and the United States

India, Germany, and France

Brazil, UAE, Nepal

USA, Bhutan, India

None of the above

A
1

| 62 Question Description | On which date is World Anthropology Day observed every year? |
| :--- | :--- | :--- |
| A | February 16 |
| C | February 12 |
| D | February 14 |
| E | February 10 |
| Correct Answer | None of the above |
| Marks | A |
| Question Description | What is the country of origin for ULTRASAT, the first telescope mission? |
| A | Iran |
| C | Iraq |
| C | Israel |
| Marks | India |


| Question Description | Ms. Medha Patkar is closely associated with the |
| :--- | :--- | :--- |
| A | Tehri project |
| C | Enron project |
| D | Sardar Sarovar project |
| Correct Answer | None of the above |
| Marks | C |
| Question Description | 1 |
| A | With the help of ISRO, in which city of Bhutan was the ground station of the India-Bhutan satellite established? |
| B | Paro |
| Correct Answer | Punakha |
| Marks | Thimphu |



## Direction: In each of the following question, there is a certain relationship between two given pair on both side of '::' . One

 part is given on another side of ' $::$ ' while another part is to be found from the given options, having the same relation with this part as the parts of the given pair. Choose the correct part from the following options.91:?: 64 : 54

63

101

32

D
70

None of the above

Correct Answer
A
Marks 1

| Question Description | Directions: Read the following information carefully and answer the questions given beside. <br> $G$ is the mother of $F$, who is the spouse of $D$. $M$ is the daughter of $D$, who is the only brother of $C$. $E$ is the son of $G$, who is married to $H$. $A$ is the niece of $C$, who has no sister and is unmarried. $T$ is the father of $D$ and has no daughter. $V$ is the sister-in-law of $\mathrm{F} . \mathrm{G}$ has only two children. M is the granddaughter of O . <br> How is F's mother-in-law related to T? |
| :---: | :---: |
| A | Sister |
| B | Father |
| C | Wife |
| D | Brother |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |


| Question Description | Direction: In each of the following question, there is a certain relationship between two given pair on both side of ':.' . <br> One word is given on another side of '::' while another word is to be found from the given options, having the same <br> relation with this word as the words of the given pair . Choose the correct word from the following options.. <br> SHI : RIJ :: QJK : ? |
| :--- | :--- |
| A | TDE |
| B C PKL |  |
| C | UGH |
| E | VPQ |
| Correct Answer | None of the above |
| Marks | 1 |

## Directions: Read the following information carefully and answer the questions given beside.

In a certain code language "hunger and poverty remain" is coded as "ner gup jil mub", "people count poverty records" is coded as " abc gup xyz def" , "count remain unchanged records" is coded as "buf ner def xyz", "people and poverty rate" is coded as "abc mub for gup".

What is the code for "poverty unchanged"?

## buf jil

buf ner
ner gup
gup buf

None of the above

## Correct Answer

Marks
D

1

A

## Correct Answer

## Marks

Choose the pair that best represents a similar relationship to the one expressed in the original pair of words. DELTOID : MUSCLE radius: bone
brain : nerve
tissue : organ
blood : vein

None of the above

A
1

| Question Description | Directions: Read the following information carefully and answer the questions given beside. |
| :---: | :---: |
|  | Certain number of persons (that does not exceed 15) are standing in a straight linear row facing towards the north. 5 persons stand between $B$ and $E$, who is third to the left of $A$. $U$ is to the right of $A$. Not more than 3 persons stand between $U$ and $T$. $B$ is third to the left of U. I is fifth to the right of T. 2 persons stand between E and F, who is sitting at the extreme left end of the row.. Three persons stand between $A$ and $L$, who is towards the right of $E$. <br> What is the position of $E$ with respect to $L$ ? |
| A | 4th to the left |
| B | 7th to the left |
| C | 6th to the right |
| D | 5th to the left |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |



| Question Description | Directions : Each of the following consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. <br> A teacher wrote a meaningful English word on the black-board. Find the exactly middle letter of the 5 letter word? <br> Statement I : The first and last letter of the word is ' $E$ '. The second and fourth letters of the word are consecutive letters in English alphabet series. R is adjacent to A . <br> Statement II : The first and last vowel is same. Only one letter is placed between A and E. S is written after R. The vowels are placed at odd numbered positions. |
| :---: | :---: |
| A | If the data in statement I is sufficient to answer the question |
| B | If the data in statement II is sufficient to answer the question. |
| C | If the data in either statement I or statement II is sufficient to answer the question. |
| D | If the data in both statement I and statement II is necessary to answer the question. |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |


| Question Description Direction: In each of the following question, there is a certain relationship between two given pair on both side of ':.: . <br> One word is given on another side of ':.' while another word is to be found from the given options, having the same <br> relation with this word as the words of the given pair . Choose the correct word from the following options. <br> pongee : Silk : : Shallot : ? <br> A Boat <br> B Building <br> C Ship <br> D Stream <br> E None of the above <br> Correct Answer A <br> Marks 1 |
| :--- | :--- |

