CET(PG)-2015

Sr. No. : 187277

Question Booklet Series : A

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No. *In Figures* *In Words*

O.M.R. Answer Sheet Serial No.

Signature of the Candidate :

Subject : M.Sc. (Hons. School/2 Year Course)-Botany

Time : 90 minutes **Number of Questions : 75** **Maximum Marks : 75**

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Series Code of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point / Black Gel pen.**
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal gently when asked to do so.
5. Please check that this Question Booklet contains **75** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point / Black Gel pen.**
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the mark of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "Rough Work" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for **computer evaluation**. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so, would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
16. **Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculator is not allowed.**

SEAL

1. **Which of the following is a marine lichen ?**

   (A) *Usnea* sp.
   (B) *Lecanora* sp.
   (C) *Ramalina* sp.
   (D) *Caloplaca* sp.

2. **Food reserve in Rhodophyta (Red algae) is :**

   (A) Floridean starch
   (B) Laminarian starch
   (C) Glycogen
   (D) Procyanophycean starch

3. **The capsule of moss capsule becomes inverted at maturity due to :**

   (A) weight
   (B) peristomal activity
   (C) hyponasty
   (D) epinasty

4. **Which one is the earliest land plant ?**

   (A) *Cooksonia*
   (B) *Rhynia*
   (C) *Hornea*
   (D) *Williamsonia*

5. **The enzyme used for alcohol formation by fermentation is :**

   (A) Amylase
   (B) Lipase
   (C) Zymase
   (D) Invertase

6. **The no. of pollen grains in *Pinus* is 6, the chromosome no. in its endosperm after fertilization will be :**

   (A) 6
   (B) 12
   (C) 24
   (D) 36

7. **A piece of beet root and a flower is put in water separately. Water becomes purple in case of beet root but is colourless in the case of flower. It is because :**

(A) in beet root, anthocyanins are found in the cell sap which are water soluble

(B) in flower, carotenoids are fat soluble and found in chromoplasts and do not come out in water

(C) in flower, pigments are found in cytoplasm while in beet root, pigments are located in vacuoles

(D) Both (A) and(B)

8. **Green plants obtain energy from sun through chloroplasts. These cell organelles provide energy by absorbing from the solar spectrum :**

(A) Green and blue colors

(B) Violet and blue colors

(C) Violet and green colors

(D) Green and red

9. **New mitochondria originates from :**

(A) ER or plasma membrane

(B) de-novo origin

(C) Division of pre-existing mitochondria

(D) Prokaryotic origin

10. **Poisons like cyanide inhibit Na^+ efflux and K^+ influx. The effect is reversed by injection of ATP. It shows that :**

(A) Na^+-K^+ pump operates fully in cells

(B) ATP is hydrolyzed by ATPase to release energy

(C) Energy for Na^+-K^+ pump comes from ATP hydrolysis

(D) ATP is a carrier protein

11. **The most abundant protein on earth is :**

(A) Keratin

(B) Rubisco .

(C) RuBP

(D) Fibrinogen

12. **A trihybrid cross is made between two yeasts with genotype AaBbCc. What proportion of the offsprings will be genotype aabbcc ?**

(A) 0 (B) 1/4

(C) 1/16 (D) 1/64

13. **Pea plants with yellow round seeds are crossed with plants having green wrinkled seeds (yellow and round traits are dominant). What will be the phenotypic ratio in F1 generation ?**

(A) 9 yellow round : 3 green round : 3 yellow wrinkled : 1 green wrinkled

(B) All yellow round

(C) Yellow round : green round : yellow wrinkled : green wrinkled in the ratio of 1 : 1 : 1 : 1

(D) All green wrinkled

14. **The no. of linkage groups in man is :**

(A) 23 (B) 46

(C) 24 (D) 45

15. **Of a normal couple, half of the sons are hemophilic and half of the daughters are carriers (heterozygous). The gene for this disease in the couple are located on :**

(A) X-chromosome of both the parents (B) both the x-chromosomes of mother

(C) only on one chromosome of mother (D) Y-chromosome of father

16. **Enzymes called restrictive endonucleases are used in genetic engineering as molecular :**

(A) fixatives to join DNA fragments (B) scalpels to cut DNA at specific sites

(C) degraders to break up DNA (D) builders of DNA

17. **Saffron is obtained from which part of *Crocus sativus* plant ?**

(A) Anthers (B) Stigma

(C) Root hair (D) Petals

18. **Competition for water, minerals, light and space is most severe between two :**

(A) closely related species occupying the same niche

(B) closely related species occupying different niches

(C) unrelated species occupying same niche

(D) species occupying different overlapping systems

19. **During DNA replication, the term "leading strand" is applied to the one which always replicates in :**

(A) 5' → 3' direction continuously (B) 5' → 3' direction discontinuously

(C) 3' → 5' direction continuously (D) 3' → 5' direction discontinuously

20. **Seat of synthesis and seat of action of florigen :**

(A) Root and leaf respectively

(B) Root and shoot tip respectively

(C) Shoot tip and leaf respectively

(D) Leaf and shoot tip respectively

21. **In a short day plant flowering is induced by :**

(A) long nights

(B) photoperiods less than 12 hours

(C) photoperiods shorter than initial value and uninterrupted long night

(D) short photoperiods and interrupted long nights

22. **Gibberellic acid has been successfully employed to induce flowering in :**

(A) short day plants under long day conditions

(B) long day plants under short day conditions

(C) the day neutral plants

(D) all types of plants

23. **Universal initiating codon is :**

(A) GUA (B) UAG

(C) AUG (D) AAG

24. **Lightest wood in the plant kingdom comes from :**

(A) *Quercus suber* (B) *Ochroma lagipus*

(C) *Erythrina suberosa* (D) *Eucalyptus globus*

25. **Heart rot of sugar beet is caused due to the deficiency of :**

(A) Calcium (B) Potassium

(C) Boron (D) Iron

26. **Most of the swollen part of fleshy root is comprised by hypocotyl in :**

(A) Radish (B) Carrot

(C) Turnip (D) Beet

27. **The example of leaf opposed stem tendrils is :**

(A) *Cucurbita* (B) Grape-vine

(C) *Passiflora* (D) *Antigonon*

28. **The type of compound leaves in *Coriander* is :**

(A) Unipinnate (B) Bipinnate

(C) Tripinnate (D) Decompound

29. **In Australian Acacia, the leaves are modified into :**

(A) Cladodes
(B) Phylloclades
(C) Phyllodes
(D) Tendrils

30. **In *Nepenthes*, the pitcher is a modification of :**

(A) Leaf base
(B) Petiole
(C) Lamina
(D) Stipules

31. **Raceme of Racemes is also termed as :**

(A) Umbel
(B) Spadix
(C) Panicle
(D) Corymb

32. **The inflorescence in *Euphorbia* species is :**

(A) Verticillaster
(B) Cyathium
(C) Cymose head
(D) Capitulum

33. **The fruit of *Litchi* is :**

(A) Succulent and single seeded
(B) Succulent and many seeded
(C) Dry and single seeded
(D) Dry and many seeded

34. **Censer mechanism for dispersal of seeds occur in :**

(A) Poppy
(B) *Calotropis*
(C) *Sonchus*
(D) *Albizzia*

35. **Causal organism for the 'Wart Disease of Potato' is :**

(A) *Olpidium*
(B) *Physoderma*
(C) *Synchytrium*
(D) *Urophlyctis*