

01. What floral reward does *Amorphophallus* particularly provide to its pollinator? [NTA Abhyas-30-06]

- (1) Floral oils (2) Pollen grains
 (3) Nectar (4) **Safe place to lay eggs**

02. My nucellar cells surrounding the embryo sac start dividing, protrude into the embryo sac and develop into the embryos. Each of my ovule contains many embryos. Who am I? [NTA Abhyas-30-07]

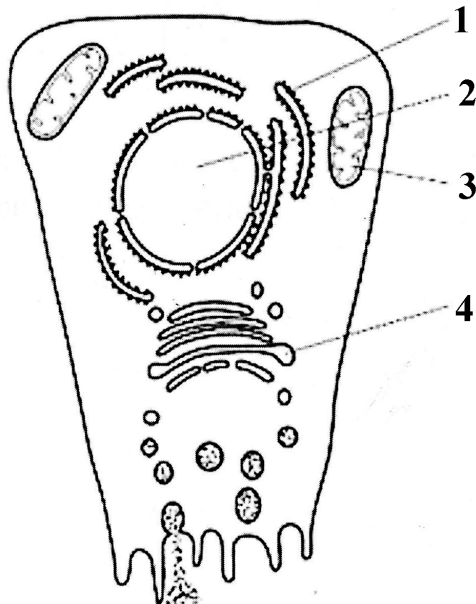
- (1) Apple (2) Litchi
 (3) **Lemon** (4) Strawberry

03. Choose the incorrect statement from the following.

[NTA Abhyas-30-25]

- (1) **Sun is the only source of energy for every single ecosystem on earth**
 (2) Plants capture 2–10% of PAR
 (3) Ecosystems follow the 2nd law of thermodynamics
 (4) In a terrestrial ecosystem major producers are herbaceous and woody plants

04. Radioactively-labelled d-nucleotides are introduced into a cell. [NTA Abhyas-30-33]



05. In which cell structures will the radioactivity first become concentrated?

- (1) 1 and 2 (2) 1 and 4
 (3) **2 and 3** (4) 3 and 4

05. How many copies of each different DNA molecule will be found in a cell at the beginning of each of these stages of the mitotic cell cycle? [NTA Abhyas-30-39]

	G2 of interphase	Prophase	Cytokinesis
A	1	1	2
B	1	2	1
C	2	1	2
D	2	2	2

- (1) A (2) B
 (3) C (4) **D**

06. Which of the following organisms is an odd one out with respect to mode of nutrition? [NTA Abhyas-30-51]

- (1) *Gonyaulax* (2) *Chlamydomonas*
 (3) ***Trypanosoma*** (4) *Nostoc*

07. The plant rose is placed under two taxa Rosales and Rosaceae. Which of the following is correct about these? [NTA Abhyas-31-06]

- (1) **Rosales is order and Rosaceae is family**
 (2) Rosales is family and Rosaceae is order
 (3) Rosales is tribe and Rosaceae is family
 (4) Rosales is family and Rosaceae is tribe

08. How many of the following are the members of the family Fabaceae?

- Gram, belladonna, arhar, moong, potato, Indigofera, pea, tobacco, Sesbania [NTA Abhyas-31-11]
 (1) five (2) **six**
 (3) seven (4) four

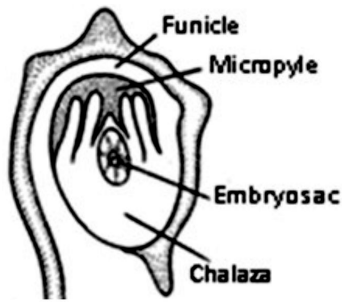
09. The type of embryo sac discovered by Strassburger in *Polygonum* plant, [NTA Abhyas-31-15]

- (1) Has seven celled seven nucleated structure and is bisporic
 (2) Has seven celled seven nucleated structure and is monosporic
 (3) Has seven celled eight nucleated structure and is bisporic
 (4) **Has seven celled eight nucleated structure and is monosporic**

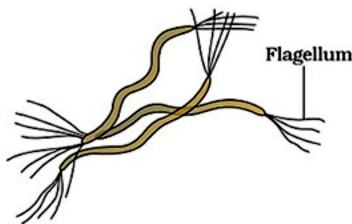
10. In angiosperms, _____ nuclei participate in fertilization. [NTA Abhyas-31-17]
 (1) 2 (2) 4
 (3) 5 (4) 7
11. Total number of meiotic divisions required for forming 100 zygotes/100 grains of wheat is [NTA Abhyas-31-19]
 (1) 50 (2) 125
 (3) 75 (4) 100
12. Which of the following is correct about the humus? [NTA Abhyas-31-32]
 (1) Black colored organic and inorganic material
 (2) Dark brown colored crystalline organic and inorganic material
 (3) Black colored crystalline organic and inorganic material
 (4) **Dark brown colored amorphous organic material**
13. The evil quartet represents [NTA Abhyas-31-35]
 (1) **Four major causes of biodiversity losses**
 (2) Four major causes of ozone depletion
 (3) Four major causes of global warming
 (4) Four major causes of water pollution
14. In flowering plants, haustorial cell is [NTA Abhyas-31-62]
 (1) **The cell of suspensor present at the micropylar end and formed during embryogenesis**
 (2) The cell of suspensor present at the chalazal end and formed during embryogenesis
 (3) The cell of suspensor present at the micropylar end and formed during the formation of the endosperm
 (4) The cell of suspensor present at the chalazal end and formed during the formation of the endosperm
15. Match the following. [NTA Abhyas-32-71]
- | | Column-I | | Column-II |
|------|------------------|----|---------------|
| i. | Inclusion bodies | a. | Carbohydrases |
| ii. | Lysosomes | b. | Glycolipids |
| iii. | Mitochondria | c. | Gas vacuoles |
| iv. | Golgi apparatus | d. | 70S ribosome |
- (1) i-b; ii-a; iii-d; iv-c (2) i-c; ii-b; iii-a; iv-d
 (3) **i-c; ii-a; iii-d; iv-b** (4) i-d; ii-b; iii-a; iv-c
16. If an angiospermic male plant is a diploid and female plant tetraploid, the ploidy level of endosperm will be [NTA Abhyas-32-69]
 (1) Haploid (2) Triploid
 (3) Tetraploid (4) **Pentaploid**
17. Consider the following four statements (I-IV) related to cell cycle and select the correct option stating them as true [T] and false [F]. [NTA Abhyas-32-59]
 I. G₁ phase is a metabolically active stage of the cell cycle.
 II. Interphase is the phase of actual cell division.

- III. The number of chromosomes doubles in S-phase.
 IV. The cells that do not divide further exit the G₁-phase to enter a quiescent stage.
 (1) I-T; II-F; III-F; IV-F (2) I-F; II-T; III-T; IV-T
 (3) I-F; II-F; III-T; IV-T (4) **I-T; II-F; III-F; IV-T**
18. Select the correct pairing. [NTA Abhyas-32-30]
- | | A Micro organism | B Product |
|-----|--------------------|---------------|
| (1) | Aspergillus niger | Acetic acid |
| (2) | Monascus purpureus | Statins |
| (3) | Streptococcus | Cyclosporin A |
| (4) | Methanogens | Cheese |
19. DDT residues are rapidly passed through food chain causing biomagnification because DDT is [NTA Abhyas-32-14]
 (1) Moderately toxic
 (2) Non-toxic to aquatic animals
 (3) Water soluble (4) **Lipo soluble**
20. Root caps are absent in [NTA Abhyas-32-06]
 (1) **Eichhornia, pistia and lemna**
 (2) Pandanus, pistia and lemna
 (3) Ficus, pothos and lemna
 (4) Eichhornia, pistia and pothos
21. VAM is [NTA Abhyas-32-03]
 (1) Bioinsecticide (2) Bioherbicide
 (3) Endomycorrhiza (4) Ectomycorrhiza
22. Which of these is not a contrivance for cross pollination? [NTA Abhyas-33-11]
 (1) Dicliny (2) Dichogamy
 (3) **Cleistogamy** (4) Herkogamy
23. Some secretory cells synthesize and release glycoproteins. What is the correct order of the sequence of events as they occur in the secretory cell? [NTA Abhyas-33-18]
 I. Exocytosis
 II. Product accumulates in secretory vesicle
 III. mRNA binds to ribosomes
 IV. Synthesis of glycoprotein
 (1) III, IV, I, II (2) **III, IV, II, I**
 (3) IV, III, I, II (4) I, II, III, IV
24. Currently we are experiencing the _____ episode of mass extinction of species. [NTA Abhyas-33-30]
 (1) Fifth (2) **Sixth**
 (3) Seventh (4) Tenth

25. The type of ovule depicted in this diagram is
[NTA Abhyas-33-50]



- (1) Campylotropous Ovule
(2) Anatropous Ovule
(3) Amphitropous Ovule
(4) **Circinotropous Ovule**
26. Which of the following is the correct description of the bacterium given below?
[NTA Abhyas-33-81]



- (1) **Amphitrichous spirillum** (2) Peritrichous spirillum
(3) Cephalotrichous spirillum (4) Monotrichous vibrio
27. A scion is grafted to a stock. The quality of fruits produced will be determined by the genotype of
[NTA Abhyas-34-01]
- (1) Stock (2) **Scion**
(3) Both stock and scion (4) Neither stock nor scion
28. Arrange the main steps of plant breeding sequentially:
I. Cross-hybridisation among the selected parents.
II. Evaluation and selection of parents.
III. Selection and testing of superior recombinants.
IV. Testing, release and commercialization of new cultivars.
V. Collection of variability.
[NTA Abhyas-34-10]
- (1) II, V, I, IV, III (2) V, II, III, I, IV
(3) **V, II, I, III, IV** (4) II, I, V, III, IV
29. Genes present in the cytoplasm of eukaryotic cells are found in
[NTA Abhyas-34-23]
- (1) **Mitochondria and inherited via egg cell**
(2) Lysosome and Peroxisome
(3) Golgi bodies and Smooth endoplasmic reticulum
(4) Plastid and inherited via male gamete
30. Sister chromatids of a chromosome have:
[NTA Abhyas-34-37]
- (1) Different genes at the same locus

- (2) Different alleles at the same gene at the same locus
(3) **Same alleles of the same gene at the same locus**
(4) Same alleles at different Loci

31. Balbiani rings are site of [NTA Abhyas-34-71]
(1) **RNA synthesis** (2) Lipid synthesis
(3) Nucleotide synthesis (4) Polysaccharide synthesis

32. The ... (i) ... is a spherical structure present in the nucleoplasm and it is a site for ... (ii) ... synthesis.
(1) (i) Nucleus (ii) DNA (2) (i) Ribosome (ii) Protein
(3) (i) Centromere (ii) Kinetochore
(4) (i) **Nucleolus** (ii) **rRNA**

33. What is not correct about mitosis? [NTA Abhyas-35-13]
(1) Usually restricted to the diploid cells and haploid cells of some social insects
(2) **Furrow extends centripetally and microfilament ring brings about cleavage in plant cells**
(3) Growth in multicellular organisms is a result of mitosis
(4) Meristematic tissues show mitosis

34. Match the column. [NTA Abhyas-35-14]

	Column-I		Column-II
(a)	Leptotene	(i)	Chiasmata
(b)	Zygotene	(ii)	Chromosomes visible
(c)	Pachytene	(iii)	The pairing of homologous chromosome
(d)	Diplotene	(iv)	Clear appearance of tetrads

- (1) (a)-(i); (b)-(ii); (c)-(iv); (d)-(iii)
(2) **(a)-(ii); (b)-(iii); (c)-(iv); (d)-(i)**
(3) (a)-(ii); (b)-(iii); (c)-(i); (d)-(iv)
(4) (a)-(iv); (b)-(iii); (c)-(ii); (d)-(i)
35. Find out the incorrect match. [NTA Abhyas-35-28]
(1) Biosphere reserves in India – 18
(2) **Hotspots in India – 35**
(3) National Parks in India – 104
(4) Wildlife sanctuaries in India – 551
36. The thickness of ozone in the atmospheric layer is measured in:
[NTA Abhyas-35-44]
(1) dB (2) atm
(3) **DU** (4) ppm
37. Which of the following is are considered as limitation of the ecological pyramids?
[NTA Abhyas-35-46]
(1) It does not take into account the same species belonging to two or more trophic levels
(2) It assumes a simple food chain
(3) Saprophytes are not given any place in ecological pyramids despite playing an important role in the ecosystem
(4) **All of the above**

38. Select the incorrect statement. [NTA Abhyas-35-49]
(1) Animal species are more than plant species on earth
(2) **Prokaryotic species are more in number in comparison to animal species**
(3) More than 90,000 species of animals are found in India
(4) India is one of the 12 megadiversity countries in the world
39. Proportion of reproductive age group is higher than pre-reproductive groups in [NTA Abhyas-35-64]
(1) triangular age pyramid
(2) **urn-shaped pyramid**
(3) bell-shaped age pyramid
(4) More than one option is correct
40. Ovary is half-inferior in the flowers of [NTA Abhyas-35-71]
(1) Guava (2) **Plum**
(3) Brinjal (4) Cucumber