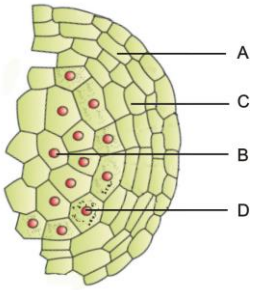
1. In the given figure A, B, C, D are –



(a) A – epidermis , B – microspore mother cell, C – endothecium, D – tapetum
(b) A – endothecium , B – microspore mother cell, C – middle layer, D – tapetum
(c) A – epidermis , B – microspore mother cell, C – middle layer, D – tapetum
(d) A – endothecium , B – megaspore mother cell, C – endothecium, D – middle layer

2. The total nuclei in mature male gametophyte of an angiosperm are

(a) 2 (b) 3
(c) 4 (d) 5

3. Compound pollengrains are found in

(a) *Calotropis* (b) *Cyperus*
(c) *Typha* (d) None

4. Pollinium can be seen in

(a) *Calotropis* (b) *Coelogynae*
(c) *Asclepias* (d) All the above

5. Sculpturing on the surface of pollen grain is due to the activity of

(a) Foot layer and tactum (b) Tactum
(c) Tactum and sporopollenin (d) Footlayer and Baculate layer.

6. Hay fever (Allergy) is caused due to pollen grains of

(a) *Amaranthus* (b) *Sorghum*
(c) *Ambrosia* (d) All the above.

7. Chromosome number in pollen grain is 6. What shall be it's number in leaf tip cells.

(a) 6 (b) 12
(c) 24 (d) 3

8. There is an abundant occurrence of fossilised pollen grains since it is resistant due to-

(a) Lignocellulose (b) Sporopollenin
(c) Pectocellulose (d) Pectolignin

9. How many pollen mother cells will form 1000 pollen grains-

(a) 200 (b) 250
(c) 300 (d) 100

10. Monothecous anthers present in-

(a) Malvaceae (b) Leguminosae
(c) Solanaceae (d) Compositae

11. Dimorphic tapetum is present in-

(a) *Typha* (b) *Portulaca*
(c) *Alectra thomsonii* (d) *Poa*

12. In a pollen grain, larger nucleus is-

(a) Generative nucleus (b) Vegetative nucleus
(c) Polar nucleus (d) None of these

13. If sporangia are developed from a single initial cell, the development of sporangia is designated as

(a) Eusporangiate (b) Leptosporangiate
(c) Monosporangiate (d) Monocarpic

14. Endothecium, middle layer and tapetum in anther are derived from-

(a) Primary sporogenous layer (b) Primary parietal layer
(c) Both (d) None of the above

15. 'Callase' enzyme which dissolve callose of tetrad of microspores to separate 4 microspores is provided by -

(a) Pollen grains (b) Middle layer
(c) Tapetum (d) Endothecium

16. All the cells of anther are diploid except

(a) Endothecial cells (c) Microspore mother cells
(b) Epidermal cells (d) Pollen grains

17. Anther of *Arceuthobium* plant is

(a) Tetra sporangiate (b) Bisporangiate
(c) Monosporangiate (d) Above (a) and (b) both

18. Linear pollen tetrad is found in

(a) *Butomopsis* (b) *Polygonum*
(c) *Magnolia* (d) *Halophila*

19. In _____ of angiosperm pollen grains are shed at 2 celled stage

(a) less than 60% (b) over 60%
(c) less than 40% (d) over 90%

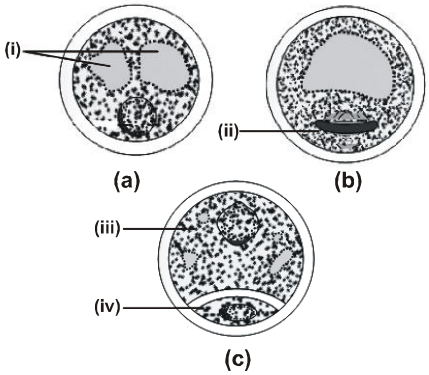
20. Sporopollenin provides resistance to the pollen grain it is chemically

(a) Protein (b) Fatty substance
(c) Hetropolysaccharide (d) Homopolysaccharide

21. Given below the following statements

A. Pollen grains are spherical and measures 25 – 50 μm in diameter.
B. At germpore sporopollenin is absent
C. Pollen grain consumption increase performance of athletes and race horses
D. Pollen grains are shed in two celled stage in more than 60% angiospermic plants
How many statements are wrong –
(a) 3 (b) 2
(c) 1 (d) 0

22.



In the above diagrams identify i, ii, iii & iv and select the suitable options.
(a) i - Vacuole; ii - symmetrical spindle, iii - Vegetative cell; iv - generative cell
(b) i - Cytoplasm; ii - Asymmetrical spindle, iii - Generative cell; iv - Vegetative cell
(c) i - Nuclei; ii - Symmetrical spindle, iii - Tube cell; iv - Vegetative cell
(d) i - Vacuole; ii -Asymmetrical spindle, iii - Vegetative cell; iv - generative cell

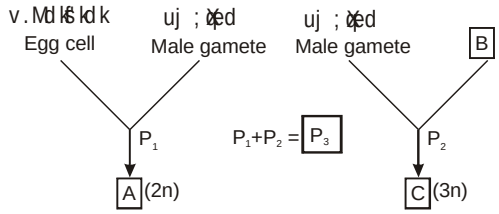
23. Choose incorrect statement.

(a) In western countries, a large number of pollen products in the form of tablets & syrups are available in market.
(b) Some cereals such as rice and wheat, pollen grains lost viability within one year of their release.
(c) It is possible to store pollen grains of a large number of species for year in liquid nitrogen (–196°C).
(d) Store pollen grains can be used in crop breeding programme.

24. Ubish bodies found in tapetal cells help in formation of

(a) Pollenkit and pollinia (b) Exine
(c) Sporopollenin (d) Intine and pollenkit

25.



Identify structures A, B, C and phenomena - P_1, P_2,P_3

	A	B	C	P_1	P_2	P_3
(a)	Zygote	Polar nuclei	PEN	Syngamy	Triple fusion	Double fertilization
(b)	Zygote	Polar nuclei	PEN	Triple fusion	Syngamy	Double fertilization
(c)	Zygote	Synergid	PEN	Syngamy	Triple fusion	Double fertilization
(d)	Zygote	Polar nuclei	PEN	Syngamy	Apogamy	Double fertilization

26. Body of ovule is straight but at right angle to the funicle. It is called

(a) Anatropous ovule (b) Amphitropous ovule
(c) Campylotropous ovule (d) Hemitropous ovule

27. *Cucurbita* shows

(a) Porogamy (b) Mesogamy
(c) Chalazogamy (d) Acarogamy

28. Entry of pollen tube in the ovule through integument is called

(a) Chalazogamy (b) Basigamy
(c) Mesogamy (d) Porogamy

29. Siphonogamy is feature of

(a) Bryophytes (b) Pteridophyte
(c) Gymnosperm and Angiosperm (d) Algae

30. Upon fertilization what structure develops from carpel.

(a) Testa (b) Tegmen
(c) Pericarp (d) Perisperm

1. (b)
2. (b)
3. (c)
4. (d)
5. (b)
6. (d)
7. (b)
8. (b)
9. (b)
10. (a)
11. (c)
12. (b)
13. (b)
14. (b)
15. (c)
16. (d)
17. (c)
18. (d)
19. (b)
20. (b)
21. (d)
22. (d)
23. (b)
24. (b)
25. (a)
26. (d)
27. (b)
28. (c)
29. (c)
30. (c)