

1. Gum Arabic is obtained from which of the following plant species.

- A) *Boswellia sacra*
- B) *Abies balsamea*
- C) *Hevea brasiliensis*
- D) *Ceratonia siliqua*
- E) *Acacia senegal***

2. Rubber is composed of many repeating _____ subunits.

- A) isoprene**
- B) sugar
- C) resin (0.5)**
- D) gum
- E) phenolic

3. In class Maya brought in a packages of chewing gum. The gum was made with a natural plant resin. Which of the following plants produce the resin that is used in this gum?

- A) *Boswellia carteri*
- B) *Hevea brasiliensis*
- C) *Manilkara chicle***
- D) *Abies balsamea*
- E) *Acacia senegal*

4. How many of the following statements is / are **incorrect** with respect to the use of wood for fuel?

i. When choosing wood to burn white pine would produce three times as much heat as an equivalent volume of oak.

ii. Charcoal is produced by burning wood in an oxygen-enriched environment.

iii. Charcoal burns at a higher temperature than wood.

iv. Methanol can be produced from wood as a byproduct of the charcoal producing process.

- A) 0
- B) 1
- C) 2**
- D) 3
- E) 4

BONS QUESTION

5. Trees classified as cedars, yews, pines and redwoods are found in the Division

- A) Ginkgophyta.
- B) Gnetophyta.
- C) Cycadophyta.
- D) Magnoliophyta.
- E) Coniferophyta.**

6. How many of the following genera are softwoods?

Acer, Juglans, Pinus, Quercus, Cedrus

- A) 1
- B) 2**
- C) 3
- D) 4
- E) 5

7. The gin step in cotton processing involves

- A) separating seeds from the lint.
- B) straightening the lint.
- C) twisting the lint into one continuous thread.
- D) making the lint parallel to one another.
- E) using microorganisms to break down the cellulose to fibres.

8. In woody plant stems and trunks gas exchange takes place via

- A) stomata.
- B) lenticels.**
- C) xylem.
- D) the central vacuole.
- E) Two of the above are correct.

9. A synthetic fibre made from dissolved cellulose is

- A) linen.
- B) sisal.
- C) rayon.**
- D) hemp.
- E) nylon.

10. Parchment or vellum are made from

- A) **animal skins.**
- B) bast fibres.
- C) cotton fibres.
- D) wood pulp.
- E) papyrus.

11. During WWII paper was produced from _____ pulp in England.

- A) **wheat**
- B) sugar cane
- C) **wheat**
- D) rag
- E) wood

12. Newsprint comprises a large proportion of the paper produced in Canada. This is low quality paper that is not white and may yellow or crumble with age. The reason for this is that the paper has _____ present.

- A) **lignins**
- B) cellulose
- C) sulphates
- D) chlorine bleach
- E) high amounts of water

13. Plants are thought to have first invaded the land in the _____ period.

- A) **Ordovician (0.5)**
- B) Tertiary
- C) Cretaceous
- D) **Silurian**
- E) Carboniferous

14. Members of the Magnoliophyta first appeared in the _____ period.

- A) Ordovician
- B) Tertiary
- C) **Cretaceous**
- D) Silurian
- E) Carboniferous

15. Which of the following is the correct way to write the binomial scientific name for red maple?

- A) ***Acer rubrum***
- B) *Acer rubrum*
- C) *Acer Rubrum*
- D) *acer Rubrum*
- E) *acer rubrum*

16. Use the diagram on the last page of the test to answer this question.

The plant Division labeled **1** in the diagram is the

- A) Bryophyta
- B) Coniferophyta
- C) **Magnoliophyta**
- D) Hepatophyta
- E) Gnetophyta

17. Use the diagram on the last page of the test to answer this question.

The plant Division labeled **7** in the diagram is the

- A) Bryophyta
 - B) Coniferophyta
 - C) Magnoliophyta
 - D) **Hepatophyta**
 - E) Gnetophyta
- BONUS QUESTION**

18. Use the diagram on the last page of the test to answer this question.

The derived character indicated by **8** is

- A) true leaves.
- B) stomata.
- C) **seeds.**
- D) vascular tissue.
- E) flowers.

19. Use the diagram at the end of the test to answer this question.

The derived character indicated by **9** is

- A) true leaves.**
- B) stomata.
- C) seeds.
- D) vascular tissue.
- E) flowers.

20. The eucalyptus is a economically important tree. Although we have not studied it in class you should be able to use your knowledge of plant taxonomy to deduce its correct classification. Which of the following is the correct order, i.e. Kingdom – Division – Class – Order- Family – Genus?

- A) Plantae, Magnoliopsida, Magnoliophyta, Myrtales, Myrtaceae, Eucalyptus
- B) Plantae, Magnoliophyta, Myrtales, Myrtaceae, Magnoliopsida, Eucalyptus
- C) Plantae, Myrtales, Myrtaceae, Magnoliophyta, Magnoliopsida, Eucalyptus
- D) Plantae, Magnoliophyta, Magnoliopsida, Myrtales, Myrtaceae, Eucalyptus**
- E) Plantae, Magnoliophyta, Magnoliopsida, Myrtaceae, Myrtales, Eucalyptus

21. The central vacuole which occurs in some plant cells is surrounded by a membrane termed the

- A) matrix.
- B) ER.
- C) plasma membrane.
- D) tonoplast.**
- E) cilia.

22. Which of the following is **not** found in a chloroplast?

- A) stroma
- B) circular DNA
- C) ribosomes
- D) thylakoids
- E) cristae**

23. Which of the following is a cell type that is classified as sclerenchyma?

- A) fibre**
- B) vessel
- C) sieve
- D) guard
- E) epidermal

24. Vascular cambium is responsible for

- A) secondary vascular growth in plants.**
- B) secondary apical growth in plants.
- C) primary vascular growth in plants.
- D) primary apical growth in plants.
- E) cork and bark formation.

25. Parenchyma is _____ tissue with _____ cell walls.

- A) dead; unthickened; lignin
- B) living; thickened; cellulose
- C) dead; thickened; cellulose
- D) living; unthickened; cellulose**
- E) dead; thickened; lignin

26. Collenchyma is _____ tissue with _____ cell walls.

- A) dead; unthickened; lignin
- B) living; thickened; cellulose**
- C) dead; thickened; cellulose
- D) living; unthickened; cellulose
- E) dead; thickened; lignin

27. Which of the following cell types are involved in the conduction of water?

- A) parenchyma and vessel elements**
- B) collenchyma and tracheids
- C) vessel elements and tracheids**
- D) sclerenchyma and parenchyma
- E) collenchyma and sclerenchyma

28. A carrot is an example of a root system characterized by one main root, that is, a

- A) tap root.**
- B) fibrous root.
- C) tuberous root.
- D) adventurous root.
- E) aerial or vertical root.

29. The best way to describe the growth of plants is

- A) perennial.
- B) annual.
- C) indeterminate.**
- D) primary
- E) secondary.

30. The following is a list of parts of a growing primary root.

- I. root cap
- II. zone of elongation
- III. zone of cell division
- IV. zone of maturation
- V. apical meristem

Which of the following is the correct sequence from the growing tip of the root upwards?

- A) I, II, V, III, IV
- B) III, V, I, II, IV
- C) II, IV, I, V, III
- D) IV, II, III, I, V
- E) I, V, III, II, IV**

31. Which of the following structures are found in animal but **not** plant cells?

- A) mitochondria
- B) nucleus
- C) tonoplast
- D) flagella
- E) centrioles**

32. Which of the following structures are found in plant **but** not animal cells?

- A) mitochondria
- B) nucleus
- C) tonoplast**
- D) rough endoplasmic reticulum
- E) nucleolus

33. Which of the following names gives information about the appearance of a plant?

- A) sugarberry
- B) Mexican tea
- C) boneset
- D) trout lily**
- E) Douglas Fir

34. Which of the following scientists is associated with the binomial system of nomenclature?

- A) Fleming
- B) Darwin
- C) Linnaeus**
- D) Mendel
- E) Gardiner

35. Modern paper is mostly made of

- A) phloem cells.
- B) xylem cells.**
- C) pith cells.
- D) bark cells.
- E) parenchyma cells.

36. The gin step in cotton processing involves

- A) **separating seeds from the lint.**
- B) straightening the lint.
- C) twisting the lint into one long continuous thread.
- D) making the lint parallel to one another.
- E) harvesting the bolls in the field.

37. Softwood is mostly composed of

- A) vessels.
- B) **tracheids.**
- C) bast.
- D) fibres.
- E) pith.

38. How many of the following plants are typically considered to be hardwoods?

Pinus, **Acer**, Cedrus, **Quercus**, **Prunus**

- A) 1
- B) 2
- C) **3**
- D) 4
- E) 5

39. Canada Balsam resins are used in the scientific and photographic fields as sealers due to its optical qualities. Which of the following plants produces Canada Balsam.

- A) *Ceratonia siliqua*
- B) *Hevea brasillensis*
- C) ***Abies balsamea***
- D) *Acer rubrum*
- E) *Ananas comosus*

40. Which of the following terms does **not** apply to a land "plant"?

- A) Eukaryotic only
- B) Multicellular only
- C) Photosynthesis may be absent
- D) Live on land and may live in water
- E) **Sexual reproduction only as in animals**