

English

Read the following passage and answer the questions that follow: (Q. no. 1 to 5)

Planting Flowers in a Container

If you want to have a garden but don't have lots of space, you can plant flowers in a container. Follow these simple steps for a foolproof container garden.

If your container doesn't already have holes in the bottom, use the drill to make at least one drainage hole. Inside the container, place the piece of broken pottery over the drainage hole. This facilitates consistent, steady draining. It also prevents the dirt from washing out the bottom of the container.

As you fill your container, it is important to add materials in the right order. First, fill the container halfway with woodchips. Then add the potting soil up to three inches from the top of the container. Sprinkle a layer of fertilizer on top of the potting soil. Organic *Vermicompost* is the best fertilizer product available.

Now you're ready to add your plants to the container. Position them carefully so the roots will have room to grow. When your plants are in position, add more potting soil to keep them in place.

When you water your plants for the first time, add water until it starts to drain out of the bottom. Then water your plants every time the soil feels very dry. Sun dries container plants very quickly, so be sure to water your container plants in the morning.

1. What is *Vermicompost*?
 - A. a type of container
 - B. a type of fertilizer
 - C. a type of potting soil
 - D. a type of flower
2. What is the second step in constructing your container planter?
 - A. Fill the container with woodchips.
 - B. Place the plant in the container.
 - C. Cover the drainage hole with a pottery shard.
 - D. Drill holes in the container.
3. What explanation does the writer give for using a pottery shard?
 - A. it prevents the water from draining out
 - B. it prevents the soil from draining out
 - C. it fertilizes the plants
 - D. it keeps the soil dry
4. Which statement from the text is an example of an *opinion*?
 - A. place the piece of pottery over the drainage hole
 - B. fill the container halfway with woodchips
 - C. organic *Vermicompost* is the best fertilizer product available
 - D. sun dries container plants very quickly
5. Which potting material fills the majority of the container?
 - A. woodchips
 - B. fertilizer
 - C. potting soil
 - D. water

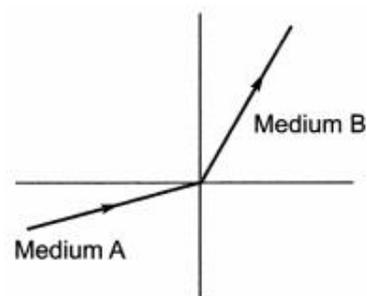
15. If $x^m/x^5=x^7$ and $(x^r)^3=x^{12}$, then the value of $m - r =$
- A. 3 B. 4 C. 8 D. 12
16. A discount of 20%, followed by another discount of 25%, is equivalent to a single discount of what percent?
- A. 33% B. 40% C. 45% D. 55%
17. $f : x \rightarrow x^2 + 1$ and $g : x \rightarrow 2x$ then $f \circ g : x \rightarrow$
- A. $x^2 + 4x + 1$ B. $4x^2 + 1$ C. $4x^2 + 2$ D. $4x^2 + 3$
18. The mean of n numbers is 15. if the same numbers together with 20 have a mean of 16 then n is
- A.2 B.4 C.20 D.15
19. If a cone and a cylinder have the same radius of the base and the perpendicular height of the cone is twice that of the cylinder, the ratio of the volumes is
- A. 4 : 3 B.2 : 3 C.1 : 3 D.1 : 6
20. The equation $Ax + By + C = 0$ always represent a :
- A. circle B. a straight line C. parabola D. square

Physics

21. A man climbs a ladder. Which quantities can be used to calculate the useful power of the man?
- A. the weight of the man and the time taken only
 B. the weight of the man and the vertical distance moved only
 C. the work done by the man and the time taken only
 D. the work done by the man and the vertical distance moved only

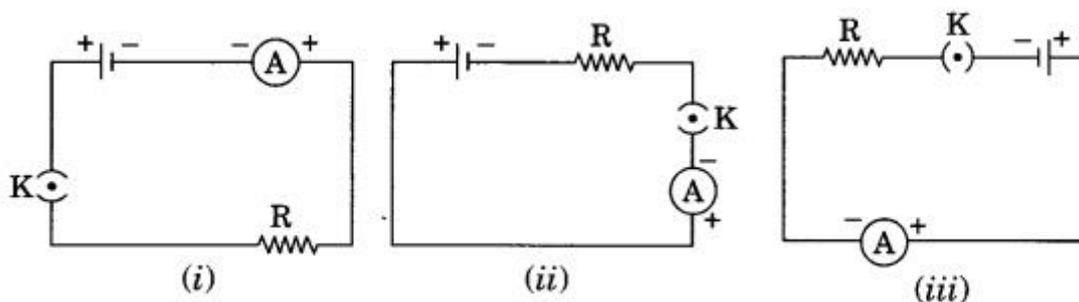
22. A light ray enters from medium A to medium B as shown in figure. The refractive index of medium B relative to A will be

- A. greater than unity B. less than unity
 C. equal to unity D. zero



23. Which of the following statement is correct?
- A. A person with myopia can see distant objects clearly.
 B. A person with hypermetropia can see nearby objects clearly.
 C. A person with myopia can see nearby objects clearly.
 D. A person with hypermetropia cannot see distant objects clearly.

24. A cell, a resistor, a key and ammeter are arranged as shown in the circuit diagrams of Figure (i), (ii) and (iii). The current recorded in the ammeter will be



- A. maximum in (i) B. maximum in (ii)
 C. maximum in (iii) D. the same in all the cases

25. Select the incorrect statement

- A. Magnetic field lines are closed curves
 B. No two field lines can cross each other
 C. Field lines can cross each other
 D. The relative strength of the magnetic field is shown by degree of closeness of the field lines.

26. An astronaut in an orbiting spacecraft experiences a force due to gravity. This force is less than when she is on the Earth's surface.

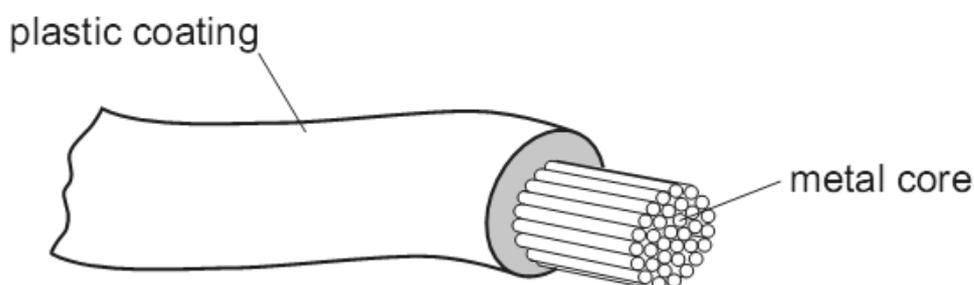
Compared with being on the Earth's surface, how do her mass and her weight change when she goes into orbit?

	mass in orbit	weight in orbit
A	decreases	decreases
B	decreases	unchanged
C	unchanged	decreases
D	unchanged	unchanged

27. Which statement about an object moving in a straight line through air is correct?

- A. When it accelerates, the resultant force acting on it is zero.
 B. When it moves at a steady speed, the air resistance acting on it is zero.
 C. When it moves at a steady speed, the resultant force acting on it is zero.
 D. When it moves, there is a resultant force acting on it.

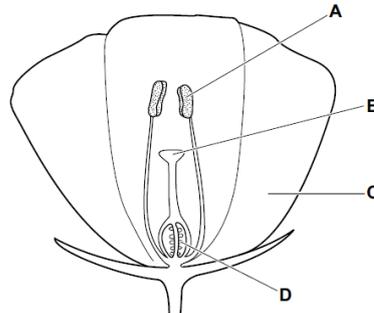
35. The ability of an atom to attract electrons towards itself is called
- A. electron affinity B. electronegativity C. ionization energy D. shielding effect
36. Chlorine, bromine and iodine are elements in Group VII of the Periodic Table. Which statement about these elements is correct?
- A. The colour gets lighter down the group.
 B. The density decreases down the group.
 C. They are all gases at room temperature and pressure.
 D. They are all non-metals.
37. Which statement about the noble gases is correct?
- A. Noble gases are diatomic molecules.
 B. Noble gases are reactive gases.
 C. Noble gases have full outer electron shells.
 D. The noble gases are found on the left-hand side of the Periodic Table
38. Which statement explains why aluminium is used in the manufacture of aircraft?
- A. It conducts heat well. B. It has a low density.
 C. It is a good insulator. D. It is easy to recycle.
39. What is the balanced chemical equation for the reaction between calcium and water?
- A. $\text{Ca} + \text{H}_2\text{O} \rightarrow \text{CaOH} + \text{H}_2$ B. $\text{Ca} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + \text{H}_2$
 C. $\text{Ca} + 2\text{H}_2\text{O} \rightarrow \text{CaOH} + \text{H}_2$ D. $\text{Ca} + 2\text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + \text{H}_2$
40. The diagram shows an electrical cable. Which statement about the substances used is correct?



- A. The coating is plastic because it conducts electricity well.
 B. The core is copper because it conducts electricity well.
 C. The core is copper because it is cheap and strong.
 D. The core is iron because it is cheap and strong.

Biology

41. Humans have the scientific name *Homo sapiens*. What do the two parts of this name refer to?
 A. genus and species
 B. group and genus
 C. kingdom and genus
 D. kingdom and species
42. Which part of a plant cell controls the movement of substances into and out of the cell?
 A. cell membrane B. cell wall C. cytoplasm D. vacuole
43. The cells that surrounds stomatas in epidermis of leaves are called
 A. diffused cells B. osmotic cells C. guard cells D. hyper cells
44. The diagram shows part of a flower. Where does fertilisation occur?



45. Worms come to the soil surface after heavy rain. Which characteristic of living organisms does this show?
 A. growth B. nutrition C. reproduction D. sensitivity
46. When does respiration take place in animals and plants?

	animals	plants
A	all the time	all the time
B	all the time	night time only
C	day time only	day time only
D	day time only	night time only

47. Which organisms do not get their energy by eating other organisms?
 A. consumer B. decomposer C. herbivore D. producer

48. How does sweating cool the body?
- A. Sweating causes vasodilation.
 - B. Sweating decreases the water content of the blood.
 - C. Urea and salt are lost from the body in sweat.
 - D. Water in sweat evaporates from the skin.
49. In which order does water pass through these tissues in a plant?
- A. mesophyll → xylem → root cortex
 - B. root cortex → mesophyll → xylem
 - C. root cortex → xylem → mesophyll
 - D. xylem → mesophyll → root cortex
50. Viruses are exceptions to the cell theory, but they have some characteristics of living things. What is one of these characteristics?
- A. They are made up of many specialized cells.
 - B. They contain genetic material.
 - C. They reproduce by mitosis.
 - D. They contain chlorophyll.

“Thank You”