2011年GMAT考试阅读材料24(附答案) PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/637/2021_2022_2011_E5_B9_B4GMA_c89_637829.htm All of the cells in a particular plant start out with the same complement of genes. How then can these cells differentiate and form structures as different as roots,stems, leaves, and fruits? The answer is that only a (5) small subset of the genes in a particular kind of cell are expressed, or turned on, at a given time. This is accomplished by a complex system of chemical messengers that in plants include hormones and other regulatory molecules. Five major hormones have been identified:(10) auxin, abscisic acid, cytokinin, ethylene, and gibberellin. Studies of plants have now identified a new class of regulatory molecules called oligosaccharins. Unlike the oligosaccharins, the five well-known plant hormones are pleiotropic rather than specific, that is, (15) each has more than one effect on the growth and development of plants. The five has so many simultaneous effects that they are not very useful in artificially controlling the growth of crops. Auxin, for instance,stimulates the rate of cell elongation, causes shoots to (20) grow up and roots to grow down, and inhibits the growth of lateral shoots. Auxin also causes the plant to develop a vascular system, to form lateral roots, and to produce ethylene. The pleiotropy of the five well-studied plant (25) hormones is somewhat analogous to that of certain hormones in animal. For example, hormones from the hypothalamus in the brain stimulate the anterior lobe of the pituitary gland to synthesize and release many different hormones, one of

which stimulates the release (30) of hormones from the adrenal cortex. These hormones have specific effects on target organs all over the body.One hormone stimulates the thyroid gland, for example, another the ovarian follicle cells, and so forth.In other words, there is a hierarchy of hormones.(35)Such a hierarchy may also exist in plants. Oligosaccharins are fragments of the cell wall released by enzymes: different enzymes release different oligosaccharins. There are indications that pleiotropic plant hormones may actually function by activating the (40) enzymes that release these other, more specific chemical messengers from the cell wall. 1. According to the passage, the five well-known plant hormones are not useful in controlling the growth of crops because (A) it is not known exactly what functions the hormones perform (B) each hormone has various effects on plants (C) none of the hormones can function without the others (D) each hormone has different effects on different kinds of plants (E) each hormone works on only a small subset of a cell ’ s genes at any particular time 2. The passage suggests that the place of hypothalamic hormones in the hormonal hierarchies of animals is similar to the place of which of the following in plants? (A) Plant cell walls (B) The complement of genes in each plant cell (C) A subset of a plant cell ’ s gene complement (D) The five major hormones (E) The oligosaccharins 3. The passage suggests that which of the following is a function likely to be performed by an oligosaccharin? (A) To stimulate a particular plant cell to become part of a plant ’ s root system (B) To stimulate the walls of a particular cell to produce other oligosaccharins (C) To activate enzymes that release specific

chemical messengers from plant cell walls (D) To duplicate the gene complement in a particular plant cell (E) To produce multiple effects on a particular subsystem of plant cells 4. The author mentions specific effects that auxin has on plant development in order to illustrate the (A) point that some of the effects of plant hormones can be harmful (B) way in which hormones are produced by plants (C) hierarchical nature of the functioning of plant hormones (D) differences among the best-known plant hormones (E) concept of pleiotropy as it is exhibited by plant hormones 5. According to the passage, which of the following best describes a function performed by oligosaccharins? (A) Regulating the daily functioning of a plant ’s cells (B) Interacting with one another to produce different chemicals (C) Releasing specific chemical messengers from a plant ’s cell walls (D) Producing the hormones that cause plant cells to differentiate to perform different functions (E) Influencing the development of a plant ’s cells by controlling the expression of the cells ’ genes 6. The passage suggests that, unlike the pleiotropic hormones, oligosaccharins could be used effectively to (A) trace the passage of chemicals through the walls of cells (B) pinpoint functions of other plant hormones 