

1. 一种抗生素杀死 99.9% 的细菌种群后，你会期待下一代的细菌 An antibiotic kills 99.9% of a bacterial population. You would expect the next generation of bacteria
  - (a) 与上一代细菌一样同样易受抗生素影响 to be just as susceptible to that antibiotic as was the previous generation
  - (b) 对抗生素更加有抵抗力 to be more resistant to that antibiotic
  - (c) 因为种群数目大幅度下降而引起死亡 to die out due to the drastic decrease in population size
  - (d) 比上一代细菌更有传染性 to be more contagious than the prior generation
  - (e) 以上皆是 all of the above
2. 水分子与其他水分子形成氢键的能力对下面何种事件是重要的 The ability of water molecules to form hydrogen bonds with other water molecules is critical to
  - (a) 皮肤表面的蒸发冷却作用 evaporative cooling of skin surfaces
  - (b) 由树木到叶片的水移动 the movement of water from a tree to its leaves
  - (c) 沿海地区与内陆地区相比较有较温和的温度 the milder temperature of coastal regions when compared to inland areas
  - (d) 某些昆虫在水表面上行走的能力 the ability of certain insects to walk on the surface of water
  - (e) 以上皆是 all of the above
3. 如果你想要将橄榄油作为一部分食物添加物到你的食物中来降低动脉硬化疾病的风险时，你使用的橄榄油是 If you were to add olive oil to your food as part of a diet to lower your risk of atherosclerotic disease, you would use olive oil that
  - (a) 在室温下是液体状的 was liquid at room temperature
  - (b) 已经氢化的 was hydrogenated
  - (c) 经修改后在室温下是固体状的 was modified to be solid at room temperature
  - (d) 添加了猪油在内面 had lard added to it
  - (e) 以上皆非 none of the above
4. 任何东西防止 ATP 的形成将会 Anything that prevents ATP formation will
  - (a) 得到细胞死亡的结果 result in cell death
  - (b) 使细胞只能依靠脂质作为能量的来源 force the cell to rely on lipids for energy
  - (c) 有转变动能为位能的结果 result in the conversion of kinetic energy to potential energy
  - (d) 使细胞只能依靠 ADP 作为能量的来源 force the cell to rely on ADP for energy
  - (e) 对细胞没有任何影响 have no effect on the cell
5. 下述有一句子是不对的，请示之：Point out one of the following statements which is not true:
  - (a) 依波拉病毒是发生在西非洲 Ebola virus disease occurs in West Africa recently
  - (b) 这种病毒还没有药有效防治 For the time being, there is no effective medicine to cure it
  - (c) 它已夺去了很多人命 Many infected persons have lost their lives due to the disease
  - (d) 它与登哥热一样 It is like the dengue disease
  - (e) 引起许多人恐慌 It has created a great fear to peoples

6. 物种的演进主要是由下述方法进行，其中一项是不对的，请示之 Evolution of a crop species can be due to the following, except
- (a) 突变 Mutation
  - (b) 选种 Selection
  - (c) 杂交 Hybridization
  - (d) 组织培养 Tissue culture
  - (e) b 和 c Both b and c
7. 在下面的减数分裂中，在那个时期是染色体四分体排列在细胞的中心处？During which of the following stages of meiosis are chromosome tetrads lined up in the centre of the cells??
- (a) 分裂间期 I interphase I
  - (b) 前期 I prophase I
  - (c) 中期 I metaphase I
  - (d) 后期 II anaphase II
  - (e) 中期 II metaphase II
8. 有镰刀型细胞贫血症杂合子的人也是 Persons who are heterozygous for sickle-cell anemia are also
- (a) 对疟疾有抗病性 resistant to malaria
  - (b) 对非洲昏睡病有抗病性 resistant to African sleeping sickness
  - (c) 容易感冒 susceptible to malaria
  - (d) 对许多的癌症容易受感染 susceptible to many forms of cancer
  - (e) 对许多的癌症有抗病性 resistant to many forms of cancer
9. 转运 RNA 在下面那一项作用中扮演重要的角色？Transfer RNA plays a role in which of the following?
- (a) 捡起特定反密码子的氨基酸 picking up the amino acid specific by the anticodon
  - (b) 认识在 mRNA 上的适当的密码子 recognizing the appropriate codons in mRNA
  - (c) 转移核苷酸到 RNA transferring nucleotides to RNA
  - (d) 将密码子翻译成氨基酸 translating codons into amino acids
  - (e) a、b 和 d a, b, and d
10. 原核和真核细胞使用下面何种方式来打开和关闭某些基因？Both prokaryotic and eukaryotic cells use which of the following to turn certain genes on and off?
- (a) DNA 连接酶 DNA ligase
  - (b) RNA 转录酶 RNA transcriptase
  - (c) 内含子片段 intron segments
  - (d) 调节蛋白 regulatory proteins
  - (e) 核小体包装 nucleosome packing

11. 下面那一项是"转基因动物"的最好定义? Which of the following best defines "transgenic animal"?
- (a) 一种动物含有病毒基因并且有能力生产大量的人类生长荷尔蒙 an animal that contains viral genes and has the ability to produce large quantities of human growth hormone
  - (b) 一种动物的遗传缺陷已利用重组 DNA 疗法来改正 an animal in which a genetic defect has been corrected using recombinant DNA therapy
  - (c) 一种动物含有从第三者"父母"而来的基因, 这甚至可能是另一种不同的物种 an animal containing a gene from a third "parent", which may even be another species
  - (d) 一种动物含有从一个或多个植物而来的基因 an animal containing genes from one or more plants
  - (e) b 或 c either b or c
12. 大部份人类的遗传性疾病是由下列何者所引起的 Most genetic disorders of human are caused by
- (a) 显性等位基因 dominant alleles
  - (b) 隐性等位基因 recessive alleles
  - (c) 怀孕期间饮酒 drinking during pregnancy
  - (d) 发生在卵子、精子或受精卵的基因突变所引起的受影响个体 a mutation that occurs in the egg, sperm, or zygote that gives rise to the affected individual
  - (e) b 和 d both b and d
13. 为了减少遗传病在后代发生, 机率最少的是: To minimize the frequency of genetic disease in the progenies
- (a) 和有亲戚关系的男女结婚 to marry genetically unrelated persons
  - (b) 异族人群通婚 inter racial marriage
  - (c) 表兄妹结婚 brother-sister marriage
  - (d) 同血型的人结婚 same blood type marriage
  - (e) 不同血型的人结婚 different blood type marriage
14. 如果细菌从地球消失, 最有可能的后果会是什么? If bacteria were to disappear from earth, what would be the most likely consequence?
- (a) 化学周期将会停止 chemical cycle would halt
  - (b) 所有其他形式的生活将会陷入灭亡 all other forms of life would be doomed
  - (c) 大气中的氧气含量将会下降 oxygen levels in the atmosphere would decline
  - (d) 植物生命将会蓬勃生长 plant life would flourish
  - (e) a 和 b Both a and b

15. 真菌 The fungi

- (a) 与细菌相似，因为真菌生物都是由原核细胞构成 are similar to bacteria because fungal organisms are composed of prokaryotic cells
- (b) 与细菌相似，因为真菌利用细胞外消化，以获取他们的营养 are similar to bacteria because fungi use extracellular digestion to obtain their nutrients
- (c) 与绿色植物相似，因为真菌也产生叶绿素 are similar to green plants because fungi produce chlorophyll
- (d) 与动物界的成员不同，因为真菌是自养生物体 differ from members of the animal kingdom because fungi are autotrophic
- (e) 与绿色的植物相似，因为大部份真菌细胞都有纤维素细胞壁所包围 are similar to green plants because most fungal cells are surrounded by a cellulosic cell wall

16. 生命世界中的结构是以等级式层次所组成。下列何种选择是从最小到最大所表示的？ Structure in the living world is organized at hierarchical levels. One of the following choices lists several of these from least inclusive to most inclusive?

- (a) 细胞、分子、器官、器官系统、组织、生命体 cell, molecule, organ, organ system, tissue, organism
- (b) 分子、细胞、组织、器官、器官系统、生命体 molecule, cell, tissue, organ, organ system, organism
- (c) 分子、细胞、器官、器官系统、组织、生命体 molecule, cell, organ, organ system, tissue, organism
- (d) 细胞、分子、组织、器官、器官系统、生命体 cell, molecule, tissue, organ, organ system, organism
- (e) 分子、细胞、组织、器官系统、器官、生命体 molecule, cell, tissue, organ system, organ, organism

17. 消化是 Digestion is the

- (a) 养分的吸收 absorption of nutrient
- (b) 将肝糖转变为葡萄糖 conversion of glycogen to glucose
- (c) 食物的化学和机械性的分解 chemical and mechanical breakdown of food
- (d) 食物在胃和小肠中的搅动 churning of food in the stomach and intestine
- (e) 将氨基酸转变为蛋白质 conversion of amino acids to proteins

18. 在人类中，深吸气是如何达到的 Deep inhalation in humans is achieved by

- (a) 肺部内肌肉的收缩 contraction of muscles in the lungs
- (b) 横膈膜的收缩 contraction of the diaphragm
- (c) 横膈膜和胸部肌肉的放松 relaxation of the diaphragm and chest muscles
- (d) 横膈膜的放松 relaxation of the diaphragm
- (e) 横膈膜和胸部肌肉的收缩 contraction of the diaphragm and chest muscles

19. 动脉与静脉的区别是根据下列的特性，除了 Arteries are distinguished from veins based on all of the following features except
- (a) 相对于心脏的血液流动方向 the direction of blood flow relative to the heart
  - (b) 血管壁的结构 the structure of their walls
  - (c) 存在于血液中的氧气含量 the amount of oxygen present in the blood
  - (d) 血压 the blood pressure
  - (e) 以上皆是 all the above
20. 原发免疫反应是甚么? What is a primary immune response?
- (a) 在第一天暴露于微生物体时所产生的原发型抗体 the production of primary-type antibody in the first day of exposure to a microorganism
  - (b) 由致病性微生物体的原发抗原所诱发出的免疫反应 the immune response elicited by the primary antigen of a disease-causing microorganism
  - (c) 由致病性微生物体的原发抗体所诱发出来的免疫反应 the immune response elicited by the primary antibody of a disease-causing microorganism
  - (d) 淋巴细胞对特定抗原的首次接触所诱发出的免疫反应 the immune response elicited by the first exposure of lymphocytes to a particular antigen
  - (e) 记忆细胞对特定抗原的首次接触所诱发出的免疫反应 the immune response elicited by the first exposure of memory cells to a particular antigen
21. 下列那一项不属于内分泌腺? Which of the following is not an endocrine gland?
- (a) 胰脏 pancreas
  - (b) 甲状腺 thyroid gland
  - (c) 唾液腺 salivary gland
  - (d) 脑垂腺 pituitary gland
  - (e) 睾丸 testes
22. 发育的最初主要阶段是甚么? What is the first major phase of development?
- (a) 原肠胚形成 gastrulation
  - (b) 囊胚形成 blastulization
  - (c) 卵裂 cleavage
  - (d) 着床 implantation
  - (e) 群聚 aggregation
23. 下列哪那一项不是副交感神经系统的作用? Which of the following is not an action of parasympathetic nervous system?
- (a) 降低心率 decrease heart rate
  - (b) 降低血压 decrease blood pressure
  - (c) 胰腺的刺激 stimulation of the pancreas
  - (d) 从肝脏释放葡萄糖 release of glucose from the liver
  - (e) 唾液腺的刺激 stimulation of the salivary gland

24. 肌肉的基本功能是要 The primary function of muscles is to
- (a) 燃烧食物分子 burn food molecules
  - (b) 将化学能转变成机械能 convert chemical energy to mechanical energy
  - (c) 将骨骼连接在一起 hold the skeleton together
  - (d) 产生身体的热量来维持稳态 generate body heat to maintain homeostasis
  - (e) 以上皆是 all of the above
25. 我国主要的外销农产品是 Point out the main agricultural productions in Malaysia for export are
- (a) 棕油，树胶及菸草 Palm oil rubber and tobacco
  - (b) 棕油，树胶及稻米 Palm oil, rubber and rice
  - (c) 棕油，树胶及椰子 Rubber, paper and coconut
  - (d) 棕油，树胶及可可 Palm oil rubber and Cocoa
  - (e) 棕油，树胶及胶木 Palm oil rubber and rubber wood