

平成20年度 薬学研究科修士課程選抜入学試験問題

科目名	問題枚数	受験番号	氏名
英語	No. 1 4 枚		

I. 次のア)～コ)の英文は、薬学に関連したある英単語を解説したものである。その内容に最も適する単語を語句群から選び、その番号を解答欄に記入しなさい。(20点)

- (ア) A book describing drugs, chemicals, and medicinal preparations, especially one issued by an officially recognized authority and serving as a standard.
- (イ) A process in which a chemical mixture carried by a liquid or gas is separated into components as a result of differential distribution of the solutes as they flow around or over a stationary liquid or solid phase.
- (ウ) Any of various round or long cellular organelles of most eukaryotes that are found outside the nucleus, produce energy for the cell through cellular respiration, and are rich in fats, proteins, and enzymes.
- (エ) The portion of the vertebrate central nervous system enclosed in the skull and continuous with the spinal cord through the foramen magnum that is composed of neurons and supporting and nutritive structures and that integrates sensory information from inside and outside the body in controlling autonomic function, in coordinating and directing correlated motor responses, and in the process of learning.
- (オ) A self-sustaining chemical or nuclear reaction yielding energy or products that cause further reactions of the same kind.
- (カ) A chemical group or molecule (as a protein) on the cell surface or in the cell interior that has an affinity for a specific chemical group, molecule, or virus.
- (キ) Any of the rod-shaped or threadlike DNA-containing structures of cellular organisms that are located in the nucleus of eukaryotes, are usually ring-shaped in prokaryotes, and contain all or most of the genes of the organism.
- (ク) The point of contact between elements of an animal skeleton with the parts that surround and support it.
- (ケ) A substance produced by or a semisynthetic substance derived from a microorganism and able in dilute solution to inhibit or kill another microorganism.
- (コ) A product of living cells that circulates in body fluids (as blood), and produces a specific often stimulatory effect on the activity of cells usually remote from its point of origin.

語句群

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|-------------------|---------------------|---------------------------|-------------------|
| 1. anesthetic | 2. antibiotics | 3. brain | 4. chain reaction |
| 5. chromatin | 6. chromatography | 7. cytoskeleton | 8. diagnosis |
| 9. diffusion | 10. electrophoresis | 11. endoplasmic reticulum | 12. equilibrium |
| 13. hair | 14. heart | 15. hormone | 16. joint |
| 17. kidney | 18. liver | 19. lysosome | 20. membrane |
| 21. mitochondrion | 22. nutrient | 23. partition | 24. pesticide |
| 25. pharmacopoeia | 26. pill | 27. prescription | 28. receptor |
| 29. skin | 30. spectroscopy | 31. surfactant | 32. vitamin |

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英 語	No. 2 4 枚		

解答欄

	解答番号		解答番号
ア		力	
イ		キ	
ウ		ク	
エ		ケ	
オ		コ	

採点	
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科目名	問題枚数	受験番号	氏名
英語	No. 3 4 枚		

II

以下の英文は昨年、科学雑誌Natureに掲載された記事の一部です。ここにはパーキン (Perkin) がモーブ (mauve) と名付けた染料を作った舞台裏が書かれています。これを読んで問1-問6に答えなさい。

One hundred and fifty years ago, a teenager experimenting in his makeshift home laboratory made a discovery that in effect launched the modern chemicals industry. William Perkin was an 18-year-old student of August Wilhelm Hofmann at the Royal College of Chemistry in London, working on the chemical synthesis of natural products. In a classic case of serendipity, (1) Perkin chanced on his famous "aniline mauve" dye while attempting to synthesize something else entirely; quinine, then the only known remedy for malaria.

(2) Working at home, 『 based on the similarity of their chemical formulae (their molecular structures are very different). The reaction produced only a reddish sludge. But when the inquisitive Perkin tried the reaction using aniline instead, he got a black precipitate that dissolved in methylated spirits to give a purple solution. Textiles and dyeing being big business at the time, Perkin was astute enough to test the coloured compound on silk, which is dyed richly. (3) Hitherto, 『

Boldly, Perkin persuaded his father and brother to set up a small factory with him to manufacture the dye, which he called mauve. (4) The Perkins and others (including Hofmann) soon discovered a whole rainbow of aniline dyes, and by the mid-1860s aniline dye companies included the nascent giants of today's chemicals industry, such as Bayer, Hoechst and BASF.

makeshift (仮設の)、Hofmann (ホフマン分解・ホフマン脱離で知られる有名な化学者)、
methylated spirits (変性アルコール)

問1 下線 (1) を和訳しなさい。(5点)

問2 パーキンの例から serendipity とは一般にどういうことを意味するのか説明しなさい。(5点)

問3 下線 (2) の和訳は「アニリン誘導体の1つがキニーネと化学式が似ている(ただし分子構造は大きく異なる)ことから、パーキンは自宅の研究室で、このアニリン誘導体を酸化処理してキニーネを合成しようと試みていた。」です。(2) で欠けている『 』の部分の英文を書きなさい。(5点)

問4 下線 (3) の和訳は「それまで、ほとんどの染料は、植物や動物から抽出された天然化合物だった。」です。(3) で欠けている『 』の部分の英文を書きなさい。(5点)

問5 下線 (4) を和訳しなさい。(5点)

問6 本文中にパーキンの性格を想像させる英単語(形容詞と副詞)がいくつかでできます。そのうち2つを選びその英単語を書きなさい。(5点)

採点	
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III. 次の英文を読んで、各問に答えなさい。(30 点)

In the past the literatures on developmental neurotoxicology and on mental retardation have evolved independently, yet we know that the developing brain is a target for neurotoxicity in the developing central nervous system through many stages of pregnancy as well as during infancy and early childhood. Our definitions and theories of mental retardation and developmental disabilities affect the models of neurotoxicity we espouse. For instance, models of developmental risk in neurotoxicology have guided environmental regulation to reduce the likelihood of neurotoxic effects. On the other hand, models of developmental risk for mental retardation aim not only at primary prevention, but also at secondary and tertiary prevention through early intervention. In the future, dynamic models of neuroplasticity based on the study of gene-brain-behavior relationships are likely to guide our views of developmental neurotoxicology and prevention of mental retardation and other disabilities.

(Stephen R. Schroeder, Environmental Health Perspectives, Volume 108 より一部抜粋)

問1 下の語句群をすべて使用して、この英文に英語の表題をつけなさい。

語句群 : environmental neurotoxic insults, mental retardation, developmental disabilities

英語の表題 _____

問2 英文を要約しなさい。

採点	
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