※ 考生請注意：本試題 □可 □不可 使用計算機

一、請解釋下列名詞： (3 points each)

1. 保蟲宿主 (reservoir host)
2. 保蚴宿主 (Paratenic host)
3. 動基體 (kinetoplast)
4. 節片 (proglottid)
5. 疥瘡 (scabies)
6. 無鞭毛型 (amastigote)
7. 囊尾蚴 (cysticercus)
8. 查加斯氏病 (Chagas disease)
9. 尾蚴 (cercaria)
10. 象皮腫 (elephantiasis)

二、問答題： (15 points each)

1. 弓型蟲 (*Toxoplasma gondii*) 極易傳播感染的原因爲何？人類感染該寄生蟲的方式和途徑爲何？
2. 牛肉條蟲 (*Taenia saginata*) 與豬肉條蟲 (*Taenia solium*) 生活使有何異同？
3. 請說明蟯蟲症 (oxyuriasis) 的感染途徑及流行特點，並解釋其形成的原因。
4. 中華肝吸蟲 (*Clonor chissinensis*) 是如何感染人類的，怎樣預防該寄生蟲症的感染？

(背面仍有題目,請繼續作答)

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三、閱讀題： (10 points)

請詳細閱讀下文，簡要的說明該文章的內容，並討論該文章在寄生蟲學上的重要性。

Iron is an essential element to support the growth and survival of *Trichomonas vaginalis*. It plays a critical role in the host-parasite interaction, and modulates the expression of virulence factors in this protozoan. In this work, parasites grown in iron-rich and iron-depleted media were analyzed by (i) light and scanning electron microscopy and (ii) 2-DE and MS. Withdrawal of iron from the culture medium resulted in dramatic changes in both the morphology and in the proteome pattern of *T. vaginalis*. Trophozoites underwent transformation from ellipsoid or amoeboid forms to rounded cells, whose flagella and axostyle were internalized. Forty-five proteins differentially expressed in parasites cultivated in the absence of iron were identified. In iron-depleted parasites, enzymes involved in energetic metabolism, proteolysis and hydrogenosomal iron-sulfur (Fe-S) proteins were down-regulated or even suppressed. Among up-regulated proteins, six isoforms of actin were detected. In addition, phosphoenolpyruvate carboxykinase, putative lactate dehydrogenase, and putative adenosine triphosphatase were also up-regulated or were exclusively observed in gels related to iron-depleted parasites. Our data demonstrate that iron has a pivotal role in the regulation of the morphological transformation of *T. vaginalis* and modulates the expression of both Fe-S and non-Fe-S proteins in the parasite.