

國立清華大學 106 學年度碩士班考試入學試題

系所班組別：科技管理研究所

考試科目（代碼）：英文（4402）

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**There are total 20 multiple-choice questions, carrying 5 points each.
Please choose the one best answer to each question.**

Passage 1

Symbiosis is a term that describes the relationship between two species
of organisms that live in close interaction with each other for long periods of
time. It is what happens when one organism attaches itself to an organism of
a different species in some way to the benefit of one or both of the
organisms. line

One organism may live inside the other. This is called endosymbiosis.
Or it may live on the other organism. This is called ectosymbiosis. A
common form of endosymbiosis can be found inside the human body.
Everybody has millions of bacteria living inside their bodies to aid in
digestion and other important functions. These bacteria benefit from the
relationship because we provide them with a constant supply of food. The
functions these bacteria perform benefit our bodies so much so that without
these bacteria, our bodies would be *prone* to infection and illness. 10
Ectosymbiosis can be seen in parasites that live on animals and humans.
Fleas that live in the fur of animals and the hair of humans require our blood 15
for their survival. Although the hosts in this example receive no benefit from
the symbiotic relationship, the parasites, the fleas, couldn't survive without
the host.

There are three main categories of symbiosis. These categories can be
both endosymbiotic and ectosymbiotic. The three categories are mutualistic 20
symbiosis, parasitic symbiosis, and commensal symbiosis. They differ in the
benefits and harm each member of the relationship receives. For mutualism,
both parties must benefit in some way from their shared relationship.
Parasitism is when one party benefits while harming the other party.
Commensalism is when only one party benefits from the relationship but the 25
other gains no benefit or any harm.

Mutualism is considered the purest form of symbiosis. Many biologists
consider mutualistic symbiosis to be the only real symbiosis, since both
parties benefit from their mutual relationship. This sort of relationship can be

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seen in many forms. Sometimes one or both of the organisms absolutely 30
needs the other for survival, while in other cases, at least both parties simply
gain some functional benefit, but do not require the other to live. An
interesting example of mutualism can be found on the ocean floor. The goby
fish is unable to create a hole in the sand to provide itself shelter. It therefore
finds a shrimp to do the job. The shrimp can't see very well and so is an easy 35
target for a hungry predator. When danger is near, the goby fish taps the
shrimp with its tail and they both dart into the shrimp's hole in the sand.
Without the shrimp, the goby fish would have no place to hide, and without
the goby fish, the shrimp wouldn't know when to hide. Both organisms
benefit greatly from their mutualistic relationship. 40

Parasitism is when one organism gains benefit by harming another. This
can be done in two ways. The parasite can either kill its host, or it can
depend on the host's survival for its own. Leeches that live in rivers and
lakes suck the blood from animals and humans. They require other
organisms for their survival, but harm these organisms in the process and can 45
even go as far as killing an animal in extreme cases. Another example of
parasitism is tapeworms that live in the stomachs of humans and animals.
They are provided a place to live and ample nourishment while their hosts
are deprived of this nourishment. They need their hosts to stay alive.
Otherwise, they would perish as well. Parasitism cases where the host does 50
not die are some of the most successful modes of life on Earth.

In a commensal symbiotic relationship, neither organism is harmed, but
only one gains a benefit. This can happen when one organism uses another
for transportation, for housing or it may even be one organism using
something another organism created. Many small fish use larger whales and 55
sharks for transportation. These smaller fish swim near the bellies and
tails of the larger organisms. Clown fish have evolved immunity to the poisonous
sting of the sea anemone, an organism that lives on the bottom of the ocean
and which traps its prey with its debilitating stinging arms. Clown fish live
among the anemones and benefit from their protection from predators but in 60
no way do they actually harm their hosts. Finally, when a large snail or other
shelled creature dies, hermit crabs take advantage by using their discarded
shells as protection. They hide inside the shells and carry them around on

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their backs. When the crabs grow to be too big for their stolen shells, they simply find a new larger shell to live in. The original owner of the shell is long dead and is therefore unharmed by the hermit crab's activity.

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01. The word *prone* in the passage is closest in meaning to
 - A. sensitive
 - B. straight
 - C. unlikely
 - D. immune

 02. According to paragraph 2, all of the following statements are true EXCEPT:
 - A. There is more than one way to classify symbiotic relationships.
 - B. Humans need bacteria living inside of them to survive.
 - C. Parasites are only found in ectosymbiotic relationships.
 - D. An organism may be in more than one symbiotic relationship at the same time.

 03. According to paragraph 3, how do the different forms of symbiosis differ?
 - A. In the negative and positive affects placed on each party.
 - B. In the number of organisms involved in the relationship.
 - C. In the location of the body of the host to which an organism attaches.
 - D. In the type of benefit received by the host.

 04. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.,
 - A. Both organisms would die without each other.
 - B. There must be a functional gain on both sides in this relationship.
 - C. One or both parties will at least gain a positive benefit from the relationship.
 - D. Neither party requires the other, but benefits anyway.

 05. The word *target* in the passage is closest in meaning to

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- A. view
 - B. foundation
 - C. choice
 - D. destination
06. According to paragraph 4, what do many scientists believe about mutualism.
- A. It is one of many possible forms of symbiosis.
 - B. It is not an accepted form of symbiosis.
 - C. It makes symbiotic relationships purer.
 - D. It is synonymous with symbiosis.
07. Why does the author tell the story of the goby fish and the shrimp?
- A. To provide a good example of a mutualistic relationship.
 - B. To show that symbiosis doesn't necessarily entail one organism living on or in another.
 - C. To prove that symbiosis can exist in underwater environments.
 - D. To illustrate how two organisms couldn't survive without each other.
08. The word ample in the passage is closest in meaning to
- A. supple
 - B. abundant
 - C. insufficient
 - D. spacious
09. According to paragraph 5, which of the following would NOT be an example of a parasitic relationship?
- A. A cheetah chasing and killing a deer.
 - B. A vampire bat sucking the blood of a sleeping cow.
 - C. A worm living inside of an animal depriving it of nutrients
 - D. An insect that burrows into the skin of an animal to lay its eggs.
10. As supported by paragraph 6, all of the following are considered commensal

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symbiotic relationships EXCEPT:

- A. A fish that lives near another organism for protection against predators.
 - B. An organism that takes advantage of the creations of another.
 - C. An animal that lives off the blood of another.
 - D. An organism that attaches itself to an animal to get from one place to another.
11. According to paragraph 6, what does a clown fish gain from its relationship with the sea anemone?
- A. Invisibility
 - B. Shelter
 - C. Easier hunting grounds
 - D. Nourishment
12. What conclusion does the author make in regards to symbiosis being a good evolutionary adaptation?
- A. Adaptations like symbiosis won't last forever.
 - B. Without symbiosis, evolution could not progress.
 - C. Parasites that don't kill their hosts have the best relationship.
 - D. Mutualistic relationships are the most highly evolved relationships.

Passage 2

Recent years have brought minority owned businesses in the United States unprecedented opportunities - as well as new and significant risks. Civil rights activists have long argued that one of the principal reasons why Blacks, Hispanics, and other minority groups have difficulty establishing themselves in business is that they lack access to the sizable orders and subcontracts that are generated by large companies. Now Congress, in apparent agreement, has required by law that businesses awarded federal contracts of more than \$500,000 do their best to find minority subcontractors and record their efforts to do so on forms filed with the government. Indeed, some federal and local agencies have gone so far as to set specific percentage goals for apportioning parts of public works contracts to minority

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enterprises.

Corporate response appears to have been substantial. According to figures collected in 1977, the total of corporate contracts with minority businesses rose from \$ 77 million in 1972 to \$ 1.1 billion in 1977. The projected total of corporate contracts with minority businesses for the early 1980's is estimated to be over 53 billion per year with no letup anticipated in the next decade. 15

Promising as it is for minority businesses, this increased patronage poses dangers for them, too. First, minority firms risk expanding too fast and overextending themselves financially, since most are small concerns and, unlike large businesses, they often need to make substantial investments in new plants, staff, equipment, and the like in order to perform work subcontracted to them. If, thereafter, their subcontracts are for some reason reduced, such firms can face potentially crippling fixed expenses. The world of corporate purchasing can be frustrating for small entrepreneurs who get requests for elaborate formal estimates and bids. Both consume valuable time and resources, and a small company's efforts must soon result in orders, or both the morale and the financial health of the business will suffer. 20 25

A second risk is that White-owned companies may seek to cash in on the increasing apportionments through formation of joint ventures with minority-owned concerns. Of course, in many instances there are legitimate reasons for joint ventures; clearly, White and minority enterprises can team up to acquire business that neither could acquire alone. But civil rights groups and minority business owners have complained to Congress about minorities being set up as "fronts" with White backing, rather than being accepted as full partners in legitimate joint ventures. 30 35

Third, a minority enterprise that secures the business of one large corporate customer often run the danger of becoming and remaining dependent. Even in the best of circumstances, fierce competition from larger, more established companies makes it difficult for small concerns to broaden their customer bases: when such firms have nearly guaranteed orders from a single corporate benefactor, they may truly have to struggle against complacency arising from their current success. 40

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13. The primary purpose of the passage is to
- A. present a commonplace idea and its inaccuracies.
 - B. describe a situation and its potential drawbacks.
 - C. propose a temporary solution to a problem.
 - D. analyze a frequent source of disagreement.
 - E. explore the implications of a finding.
14. The passage supplies information that would answer which of the following questions?
- A. What federal agencies have set percentage goals for the use of minority-owned businesses in public works contracts?
 - B. To which government agencies must businesses awarded federal contracts report their efforts to find minority subcontractors?
 - C. How widespread is the use of minority-owned concerns as "fronts" by White backers seeking to obtain subcontracts?
 - D. How many more minority-owned businesses were there in 1977 than in 1972?
 - E. What is one set of conditions under which a small business might find itself financially over-extended?
15. According to the passage, civil rights activists maintain that one disadvantage under which minority-owned businesses have traditionally had to labor is that they have
- A. been especially vulnerable to governmental mismanagement of the economy.
 - B. been denied bank loans at rates comparable to those afforded larger competitors.
 - C. not had sufficient opportunity to secure business created by large corporations.
 - D. not been able to advertise in those media that reach large numbers of potential customers.
 - E. not had adequate representation in the centers of government power.
16. The passage suggests that the failure of a large business to have its bids for

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- subcontracts result quickly in orders might cause it to
- A. experience frustration but not serious financial harm.
 - B. face potentially crippling fixed expenses.
 - C. have to record its efforts on forms filed with the government.
 - D. increase its spending with minority subcontractors.
 - E. revise its procedure for making bids for federal contracts and subcontracts.
17. The author implies that a minority-owned concern that does the greater part of its business with one large corporate customer should
- A. avoid competition with larger, more established concerns by not expanding.
 - B. concentrate on securing even more business from that corporation.
 - C. try to expand its customer base to avoid becoming dependent on the corporation.
 - D. pass on some of the work to be done for the corporation to other minority-owned concerns.
 - E. use its influence with the corporation to promote subcontracting with other minority concerns.
18. It can be inferred from the passage that, compared with the requirements of law, the percentage goals set by "some federal and local agencies" (line 10) are
- A. more popular with large corporations.
 - B. more specific.
 - C. less controversial.
 - D. less expensive to enforce.
 - E. easier to comply with.
19. Which of the following, if true, would most weaken the author's assertion that,

in the 1970's, corporate response to federal requirements (lines 13) was substantial?

- A. Corporate contracts with minority-owned businesses totaled \$2 billion in 1979.
 - B. Between 1970 and 1972, corporate contracts with minority-owned businesses declined by 25 percent.
 - C. The figures collected in 1977 underrepresented the extent of corporate contracts with minority-owned businesses.
 - D. The estimate of corporate spending with minority-owned businesses in 1980 is approximately \$10 million too high.
 - E. The \$1.1 billion represented the same percentage of total corporate spending in 1977 as did \$77 million in 1972.
20. The author would most likely agree with which of the following statements about corporate response to working with minority subcontractors?
- A. Annoyed by the proliferation of "front" organizations, corporations are likely to reduce their efforts to work with minority-owned subcontractors in the near future.
 - B. Although corporations showed considerable interest in working with minority businesses in the 1970's, their aversion to government paperwork made them reluctant to pursue many government contracts.
 - C. The significant response of corporations in the 1970's is likely to be sustained and conceivably be increased throughout the 1980's.
 - D. Although corporations are eager to cooperate with minority-owned businesses, a shortage of capital in the 1970's made substantial response impossible.
 - E. The enormous corporate response has all but eliminated the dangers of overexpansion that used to plague small minority-owned businesses.