

3.8 Operant Conditioning

Name: _____ Class: _____ Date: _____ **Total: 18 marks**

KEY WORDS reinforcement 强化 • positive 正 • punishment 惩罚 • negative 负
• negative reinforcement 负强化

Objective

Build the skills to answer exam questions on **operant conditioning** 操作性条件作用.

You must be able to:

- distinguish **positive** and **negative reinforcement** 负强化 from **punishment** 惩罚
- match a **schedule of reinforcement** 强化程式 to its response pattern
- describe **shaping** 塑造 and successive approximation
- state the drawbacks of punishment as a method

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ The four consequences

Positive reinforcement adds something desirable; **negative reinforcement** removes something aversive. Both **increase** behaviour. **Positive punishment** adds something aversive; **negative punishment** removes something desirable. Both **decrease** behaviour. Negative reinforcement is not punishment.

■ Schedules

Fixed-ratio: after a set number of responses — high, bursty rates. **Variable-ratio:** after an unpredictable number — highest and steadiest rates, most resistant to extinction. **Fixed-interval:** first response after a set time — a scallop, slow then fast. **Variable-interval:** unpredictable time — steady, moderate.

■ Shaping

Reinforcing successive approximations to a target behaviour, so that a complex action can be built where it never occurred spontaneously.

■ Why punishment is limited

It tells the learner what not to do without teaching what to do; it can produce fear and avoidance of the punisher; and its effect often depends on the punisher being present.

2 Practice

2.1 State the difference between negative reinforcement and punishment. [2]

2.2 State which schedule produces the most persistent responding and why. [2]

2.3 A trainer rewards a dog for each step closer to a target behaviour.

(a) Name the technique. [1]

(b) State why it is needed for complex behaviours. [1]

3 Exam-style questions

3.1 Taking painkillers to remove a headache is maintained by [1]

A	B
C	D

A positive reinforcement

B negative reinforcement

C positive punishment

D negative punishment

3.2 A pattern of slow responding that speeds up as a deadline approaches indicates a [1]

A	B
C	D

A fixed-ratio schedule

B variable-ratio schedule

C fixed-interval schedule

D variable-interval schedule

3.3 A teacher relies on detentions to reduce disruption.

(a) State one limitation of this approach. [1]

(b) Suggest one alternative and justify it. [2]

3.4 Applied research task. A shop wants staff to greet every customer. Manager **A** gives a £5 bonus for each shift in which a supervisor observes a greeting — but supervisors observe at unpredictable times. Manager **B** gives a £5 bonus after every twenty greetings. Manager **C** removes an unpopular Saturday shift from staff who greet consistently.

(a) Name the reinforcement schedule used by Manager A and by Manager B, and state which produces the steadier rate of responding. [3]

(b) Explain why Manager C's method is **negative reinforcement** and not punishment. [2]

(c) Explain how shaping could be used to train a member of staff who currently says nothing to customers. [1]

(d) After the scheme ends, greetings continue for several weeks before stopping. Name this process and the one that would occur if greetings briefly reappeared later. [1]
