Week 8 Assessment

The due date for submitting this assignment has passed. **Due on 2017-09-20, 23:59 IST.**

As per our records you have not submitted this assignment.

1) Given the payoff matrix $P = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, it denotes the payoffs received by whom?

- The players or strategy or genotype denoted by each row
- None of the choices
- The players or strategy or genotype denoted by each column
- The players or strategy or genotype denoted by each row and column

*No, the answer is incorrect.*

Score: 0

**Accepted Answers:**

*The players or strategy or genotype denoted by each row*

2) Given the payoff matrix $P = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, and $X_A$ and $X_B$ the population fractions, calculate the fitness of the two species A and B.

- $f_A = aX_A + bX_B$, $f_B = cX_A + dX_B$
- $f_A = cX_A + dX_B$, $f_B = aX_A + bX_B$
- $f_A = bX_A + aX_B$, $f_B = dX_A + cX_B$
- $f_A = aX_A + bX_B$, $f_B = dX_A + cX_B$

*No, the answer is incorrect.*

Score: 0

**Accepted Answers:**

$f_A = aX_A + bX_B$, $f_B = cX_A + dX_B$

3) Given the payoff matrix $P = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, where $a > c$ and $b > d$. Tick all correct:

- $B$ is wiped out of the population
- $\frac{dX_A}{dt} < 0$
- $\frac{dX_A}{dt} > 0$
- $A$ is wiped out of the population

Score: 0

**Accepted Answers:**

$\frac{dX_A}{dt} < 0$
No, the answer is incorrect.
Score: 0
Accepted Answers:
\[
\frac{dX_1}{dt} > 0
\]
B is wiped out of the population

4) What describes the steady state of HIV infection? Tick all correct.

- Asymptomatic phase
- Constant viral load
- Constant immune response
- AIDS

No, the answer is incorrect.
Score: 0
Accepted Answers:
Constant viral load
Constant immune response
Asymptomatic phase

5) What are the different outcomes associated with different values of parameters in the HIV infection model? Select the correct choice.

- Immediate disease
- Indefinite virus control
- Disease after asymptomatic period
- All the above

No, the answer is incorrect.
Score: 0
Accepted Answers: All the above

6) Which of the two strategies A and B are Nash equilibria in the Payoff matrix
\[
P = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}
\]

- B
- Neither A nor B
- A and B
- A

No, the answer is incorrect.
Score: 0
Accepted Answers: Neither A nor B

7) The genome of HIV is approximately:

- 1000 bases
- 100 bases
- 100000 bases
- 10000 bases

No, the answer is incorrect.
Score: 0
Accepted Answers: 10000 bases

8) The weak selection regime corresponds to:

- \( \omega = 0 \)
- \( \omega \rightarrow 0 \)
No, the answer is incorrect.
Score: 0
Accepted Answers:
$\omega \rightarrow 0$

9) For $\omega = 1$,
- Fitness = 1/payoff
- Fitness > payoff
- Fitness = payoff
- Fitness < payoff

No, the answer is incorrect.
Score: 0
Accepted Answers:
Fitness = payoff

10) Identify the Nash equilibrium in matrix $P = \begin{bmatrix} 3 & 4 \\ 2 & 8 \end{bmatrix}$
- B only
- A only
- Neither A nor B
- A and B

No, the answer is incorrect.
Score: 0
Accepted Answers:
A and B