Unit 27 · Applications of Zoology

WORKSHEET

Full marks 31

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 31

1 Key words [4]

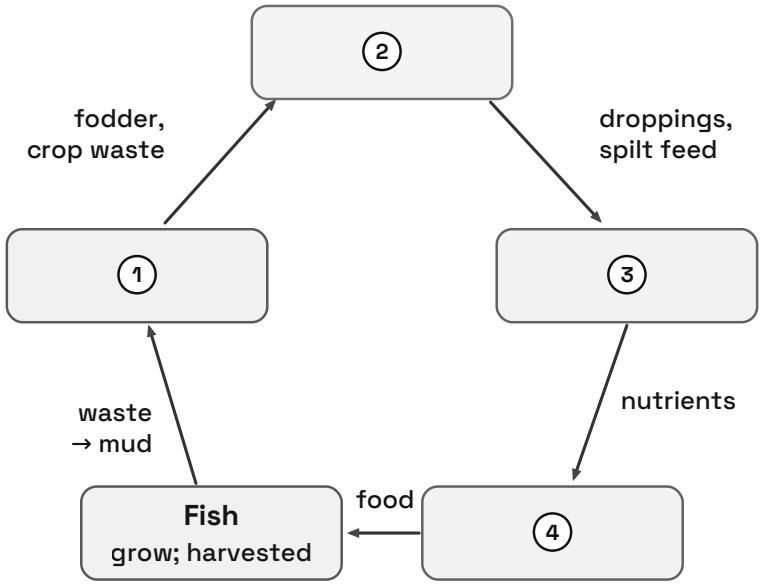
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

amniocentesis	**autograft**	**hypophysation**	**ICSI**	**isograft**	**kakabans**	**pisciculture**
surrogate	**transgenic**	**xenograft**				

Injecting a single sperm straight into an egg in IVF is _____. A woman who carries and gives birth to a baby for another woman or couple is a _____ mother. A graft from one part of a person's body to another part of the same person is an _____. A transplant between identical twins is an _____. Drawing a little amniotic fluid to test the fetus's cells is _____. An animal into which a foreign gene has been put is a _____ animal. The rearing of fishes only, as distinct from all aquatic organisms, is _____. Inducing fish to spawn by injecting pituitary extract is _____.

2 Label the diagram [2]

The diagram shows duck- or pig-cum-fish farming as a cycle. Write the labels 1 to 4. Each carries 0.5 mark.



1. _____ **2.** _____

3. _____ **4.** _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. Which test is essential for matching an organ donor and recipient? [1]

a. complete blood count
b. liver function test
c. tissue typing (HLA typing)
d. glucose tolerance test

ii. Which of these is an exotic fish in Nepal? [1]

a. silver carp
b. naini (mrigal)
c. rohu
d. asla

iii. Why are FSH injections given at the start of an IVF cycle? [1]

a. to thicken the lining of the uterus
b. to make several follicles ripen, so several eggs can be collected
c. to make the sperm swim faster
d. to stop the embryo from dividing too fast

iv. What is the main purpose of liming a fish pond? [1]

a. to warm the water
b. to lower the oxygen
c. to correct the soil's acidity and improve the water's quality
d. to feed the fish

v. A person with a transplanted heart is advised to avoid crowds and sick people. Why? [1]

a. to keep the heart rate steady
b. because immunosuppressant drugs make them catch infections easily
c. to avoid low blood pressure
d. to reduce stress

4 Short answers [9]

Write short answers to the following questions.

a. Write any two purposes of amniocentesis. [2]

b. In gestational surrogacy, whose genes does the baby carry, and why? [2]

c. Why are brothers and sisters often preferred as kidney donors? **[2]**

d. What is composite fish culture? Why is it more productive than keeping one species? **[3]**

5 Long answers **[8]**

Write long answers to the following questions.

a. Describe the steps of in vitro fertilization (IVF). **[4]**

b. What is rejection of a transplanted organ? Describe the ways it is prevented. **[4]**

6 Think [3]

Carp in a still farm pond often ripen but never spawn. Explain why an injection of pituitary extract from another fish makes them spawn.

7 Activity: Visit a fish pond or poultry farm (not marked)

Visit a fish pond or a poultry farm near you, with your teacher's permission. Ask the farmer the questions below.

Question	Farmer's answer
Which species or breeds are kept?	
What do they eat, and where does the feed come from?	
What diseases are common, and how are they prevented?	
What happens to the waste?	

Is any waste of the farm used again, as in integrated farming?