Q1. XYZ Corporation has Rs 10 million cash and is currently undertaking a Rs 10 million R&D project to develop a new drug with an expected revenue of Rs 20 million. So far, they have spent Rs 6 million on R&D. A scientist has a similar drug that she offers to sell to XYZ for Rs 2 million, with the potential to yield Rs 20 million in revenue. XYZ has only Rs 4 million cash left and cannot borrow, leaving them to choose between continuing their R&D or buying the scientist's invention.

A. What is the maximum that XYZ should pay to the scientist for her invention?

B. Suppose that the scientist demands Rs 3 million for her invention,

I. What is XYZ's accounting profit from continuing with R&D?

II. What is XYZ's economic profit from continuing with R&D?

III. Should continue its own R&D or buy scientist's invention?

Q2. Hema, a homemaker who takes tuitions and knits sweaters in her spare time, earn a positive economic profit by making and selling dresses using the dress material she bought in Dubai during the summer holidays. She purchased the material for Rs 50 per meter and can sell it back to a local fabric shop in Cochin for Rs 150 per meter. Each dress requires 4 meters of material and 4 hours of Hema's time, valued at Rs. 100 per hour. If the dresses can be sold at Rs 900 each, what would be her economic profit from this venture?

Q3. Tom has Rs 20 to spend on either apples or oranges. The marginal utility he derives from each apple is 8 utils and from each orange is 6 utils. What combination of apples and oranges should Tom buy to maximize his total utility? Assume price of one orange (Rs 1) and one apple (Rs 1).

A. 3 apples and 1 orange
B. 2 apples and 2 oranges
C. 4 apples and no oranges
D. 1 apple and 3 oranges

Q4. John has Rs 40 to spend on either ice cream or cake. The marginal utility he derives from each scoop of ice cream is 10 utils, and the marginal utility he derives from each slice of cake is 8 utils. What combination of ice cream and cake should John buy to maximize his total utility? Assume price of one ice cream (Rs 1) and one cake (Rs 1).

A. 2 scoops of ice cream & 2 slices of cake
B. 3 scoops of ice cream & 1 slice of cake
C. 4 scoops of ice cream and no cake
D. 1 scoop of ice cream & 3 slices of cake

Q5. Assume you can either work as an economics tutor on campus for Rs 18 per hour or work in your own business making university t-shirts. You must decide how much time each day to spend on each activity (up to 8 hours total). Use the information in the table below to determine how you will allocate your time if you earn Rs 5 for each t-shirt.

Hours per day	Number of t-shirts
1	6
2	11
3	15
4	18
5	21
6	23
7	25
8	26