Self-assessment test 1

ICT, definition and terminology

1. Which of the following ICT originates in IT industry?
    a. Electronic publishing
    b. Desk-top computing
    c. Flat screen technology
    d. Packaged software
    e. Client-server technology
    f. Gaming
    g. Mobile networks
    h. Fiber-optical networks
2. Write the full name for the following acronyms.
    a. A-to-D
    b. D-to-A
    c. Bit
    d. CD-ROM
    e. ICT
    f. GIS
    g. ICT4D
3. Give a definition for the following terms.
    a. Analog data
    b. Discrete or digital data
    c. Analogue signal (electrical)
    d. Digital signal (electrical)
    e. Bandwidth
    f. Modem
    g. Capacity of a channel
    h. Attenuation of an electrical signal
    i. Codec

Advantages of digital technology

1. Give a few examples of analog data.
2. Give a few examples of digital data.
3. How are data represented to be able to perform transmission?
4. What kinds of environments for data transmission exist?
5. What are the three transmission degradations that the signals suffer when transmitted on distance?
6. Why is digital transmission usually better than analogue one?

7. Where analog transmission is still used? Which ICT uses analogue transmission?
8. What is necessary to perform when transmitting digital signals using analog transmission? What is the name of the device used?
9. What is necessary to perform when transmitting analog signals using digital transmission? What is the name of the device used?
10. Why conversions from digital to analog and vice versa are necessary today?
11. What is modem?
12. What is codec?
13. What is meant by the frequency spectrum of a signal?
14. How is the bandwidth of a signal defined?
15. What is the bandwidth of the human voice over the telephone line?
16. What is bit? What is byte?
17. How can the value of 168 be represented with a binary number?
18. How much time is needed to transmit a file of 15 MB through a channel with capacity of 10 Mbps, assuming that this is the only transmission on the channel?

Digital divide, e-readiness

1. Define digital divide.
2. What are the different types of digital divide? Discuss one of them. Give the reasons for its existence and suggest possible ways to reduce it.
3. List some of the factors taken in consideration when calculating different types of e-readiness index.
4. Why the level of education and literacy is an important factor when calculating the e-readiness index? (own reflection)
5. One of the factors that influence e-readiness of a country is the technology infrastructure. Which elements are taken in consideration when evaluating technology infrastructure in a country?
6. What are the main reasons behind the digital divide among different countries?

Challenges with ICT in developing regions

1. In which way the ICT strategy developed at the national level helps in bridging digital divide?
2. Describe at least two examples of projects in ICT4D. Then, extract the problem the projects were trying to solve, the ICT used and the manner in which ICT was used. Give your own reflection on how successful the projects were.
3. Which are the three ways ICT can be used for development? Which one is the most common one? Why?
4. List at least two reasons for ICT4D projects failures in the past.
5. Which parties need to be involved when addressing a certain problem that can be mitigated using ICT?
6. When using ICT to mitigate some problems, what needs to be considered?

7. What is meant by a project being sustainable?
8. When certain ICT is to be implemented in an ICT4D project, what are the requirements with respect to technology?