Names:.............................

Index number.............................

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

QUESTIONS and ANSWERS BOOKLET

OPTION/TRADE: **TELECOMMUNICATION**

SUBJECT: **Broadcasting Transmission System**

ACADEMIC YEAR: **2020-2021**

Read carefully the instructions on page (i) & (ii).

FOR EXAMINER'S USE ONLY

QUESTIONS	1	2	3	4	5	6	7	8	9	10	Total
Marks											

QUESTIONS	11	12	13	14	15	16	17	18	19	20	Total
Marks											

QUESTIONS	21	22	23	24	25	26	27	28	29	30	Total
Marks											

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).

2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.

3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.

4. A candidate should answer in the language in which the examination is set. (See page *(ii)*)

5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.

6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.

7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.

8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).

9. Use the last non-lined pages as draft.

10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

OPTION/TRADE: TELECOMMUNICATION

SUBJECT: Broadcasting transmission system

DURATION: 3 hours

INSTRUCTIONS TO CANDIDATES: PART II (Question paper)

The paper is composed of two (2) Sections as follows:

Section I: Attempt all the Twelve (12) questions   (60 marks)

Section II: Attempt any Four (4) questions out of Six (6)   (40 marks)

Allowed materials:

- Ruler or square
- Calculator

Note:

Every candidate is required to carefully comply with the provided assessment instructions.

01. Give and explain three (3) methods used to transmit packets over a

network.   **(5 marks)**

02. Differentiate IPV4 from IPV6.   **(5 marks)**

03. Differentiate DHCP from static IP.   **(5 marks)**

04. What are the antenna positions?   **(5 marks)**

05. Calculate the signal-to-noise ratio (SNR) if output power is 15Watts, and

the input power is 20watts.   **(5 marks)**

06. Differentiate CSMA/CD from CSMA/CA.   **(5 marks)**

07. A telephone line transmits signals at a frequency of 300-3300HZ.

The signal to noisy ratio is 3162.

a) Calculate the bandwidth

b) Find the theoretical maximum bit rate of channel.   **(5 marks)**

08. Differentiate error indicator from alarm indicator. **(5 marks)**

09. Explain types of hardware maintenance that can be performed on different broadcasting transmission system equipment. **(5 marks)**

10. What is the use of technical log in maintenance? **(5 marks)**

11. a). What is TSSR

b) Enumerate the elements of the report. **(5 marks)**

12. List five (5) audio parameters. **(5 marks)**

Section II: Attempt any Four (4) questions out of Six (6)   **(40 marks)**

13. Define the following terms: **(10 marks)**

   a) RF power meters

   b) Network analyzer

   c) Binoculars

   d) Inclinometer

14. a) Give five (5) ways to perform routine maintenance of broadcasting transmission equipment

   b) Explain three (3) ways to identify faulty components during broadcasting transmission system maintenance.   **(10 marks)**

15. Address of 188.25.45.48/20 belongs to class B and with default subnet mask 255.255.0.0 [/16 in CIDR].   **(10 marks)**

   a) How many new networks created of address 188.25.45.48/20?

   b) Find the subnet mask of address 188.25.45.48/20?

   c) Find Block size of address 188.25.45.48/20?

   d) Find Total valid hosts per subnet of address 188.25.45.48/20?

16. Explain the following terms: **(10 marks)**

   a) RF exciter

   b) RF filter

   c) RF splitters

   d) (RFID)tag

   e) Barcode

17. a) How to detect and interpret abnormalities and malfunctions of a broadcasting transmission system

b) List and explain three (3) types of software maintenance that can be performed on broadcasting transmission system. **(10 marks)**

18. As a technician in charge of broadcasting transmission system maintenance in a company, list and explain five (5) broadcasting transmission equipment that may be used. **(10 marks)**