MODULE NAME:	MODULE CODE:
NETWORK ENGINEERING 1A	NWEG5111

ASSESSMENT TYPE:	**TAKE HOME TEST (PAPER ONLY)**
TOTAL MARK ALLOCATION:	**60 MARKS**
TOTAL TIME:	**This assessment should take you 2 Hours to complete, however you have 21 Hours (midnight to 9PM on the same day) to submit. This additional time has been allocated to allow for the download, completion and upload of your submission.**

By submitting this assessment, you acknowledge that you have read and understood all the rules as per the terms in the registration contract, in particular the assignment and assessment rules in The IIE Assessment Strategy and Policy (IIE009), the intellectual integrity and plagiarism rules in the Intellectual Integrity Policy (IIE023), as well as any rules and regulations published in the student portal.

INSTRUCTIONS:

1. *Please **adhere to all instructions**. These instructions are different from what is normally present, so take time to go through these carefully.*
2. ***Independent work is required**. Students are not allowed to work together on this assessment. Any contraventions of this will be handled as per disciplinary procedures in The IIE policy.*
3. ***No material may be copied from original sources, even if referenced correctly, unless it is a direct quote indicated with quotation marks.***
4. *All work must be adequately and correctly referenced.*
5. *You should paraphrase (use your own words) the concepts that you are referencing, rather than quoting directly.*
6. *Marks will be awarded for the quality of your paraphrasing.*
7. *This is an open-book assessment.*
8. *Assessments must be typed unless otherwise specified.*
9. ***Ensure that you save a copy of your responses.***
   - 9.1 *Complete your responses in a Word document.*
   - 9.2 *The document name must be your **name.student number.Module Code**.*
   - 9.3 *Once you have completed the assessment, upload your document under the **submission link** in the correct module in Learn.*

Additional instructions:

- *Calculators are not allowed.*
- *For multiple-choice questions, give only one (1) response per question. The marker will ignore any question with more than one answer, unless otherwise stated. You should, therefore, be sure of your answer before committing it to paper.*
- *Answer All Questions.*

Referencing Rubric

Providing evidence based on valid and referenced academic sources is a fundamental educational principle and the cornerstone of high-quality academic work. Hence, The IIE considers it essential to develop the referencing skills of our students in our commitment to achieve high academic standards. Part of achieving these high standards is referencing in a way that is consistent, technically correct and congruent. This is not plagiarism, which is handled differently.

Poor quality formatting in your referencing will result in a penalty **of a maximum of ten percent being deducted from the percentage awarded**, according to the following guidelines. Please note, however, that **evidence of plagiarism in the form of copied or uncited work (not referenced), absent reference lists, or exceptionally poor referencing, may result in action being taken in accordance with The IIE's Intellectual Integrity Policy (0023)**.

Markers are required to provide feedback to students by indicating **(circling/underlining) the information that best describes the student's work.**

Minor technical referencing errors: 5% deduction from the overall percentage – the student's work contains **five or more errors** listed in the minor errors column in the table below.

Major technical referencing errors: 10% deduction from the overall percentage – the student's work contains **five or more errors** listed in the major errors column in the table below**.**

If both minor and major errors are indicated, then 10% only (and not 5% or 15%) is deducted from the overall percentage. The examples provided below are not exhaustive but are provided to illustrate the error

Required: Technically correct referencing style	Minor errors in technical correctness of referencing style Deduct 5% from percentage awarded	Major errors in technical correctness of referencing style Deduct 10% from percentage awarded
Consistency • The same referencing format has been used for all in-text references and in the bibliography/reference list.	Minor inconsistencies. • The referencing style is generally consistent, but there are one or two changes in the format of in-text referencing and/or in the bibliography. • For example, page numbers for direct quotes (in-text) have been provided for one source, but not in another instance. Two book chapters (bibliography) have been referenced in the bibliography in two different formats.	Major inconsistencies. • Poor and inconsistent referencing style used in-text and/or in the bibliography/ reference list. • Multiple formats for the same type of referencing have been used. • For example, the format for direct quotes (in-text) and/or book chapters (bibliography/ reference list) is different across multiple instances.
Technical correctness • Referencing format is technically correct throughout the submission. • Position of the reference: a reference is directly associated with every concept or idea. • For example, quotation marks, page numbers, years, etc. are applied correctly, sources in the bibliography/reference list are correctly presented.	Generally, technically correct with some minor errors. • The correct referencing format has been consistently used, but there are one or two errors. • Concepts and ideas are typically referenced, but a reference is missing from one small section of the work. • Position of the references: references are only given at the beginning or end of every paragraph. • For example, the student has incorrectly presented direct quotes (in-text) and/or book chapters (bibliography/reference list).	Technically incorrect. • The referencing format is incorrect. • Concepts and ideas are typically referenced, but a reference is missing from small sections of the work. • Position of the references: references are only given at the beginning or end of large sections of work. • For example, incorrect author information is provided, no year of publication is provided, quotation marks and/or page numbers for direct quotes missing, page numbers are provided for paraphrased material, the incorrect punctuation is used (in-text); the bibliography/reference list is not in alphabetical order, the incorrect format for a book chapter/journal article is used, information is missing e.g. no place of publication had been provided (bibliography); repeated sources on the reference list.
Congruence between in-text referencing and bibliography/ reference list • All sources are accurately reflected and are all accurately included in the bibliography/ reference list.	Generally, congruence between the in-text referencing and the bibliography/ reference list with one or two errors. • There is largely a match between the sources presented in-text and the bibliography. • For example, a source appears in the text, but not in the bibliography/ reference list or vice versa.	A lack of congruence between the in-text referencing and the bibliography. • No relationship/several incongruencies between the in-text referencing and the bibliography/reference list. • For example, sources are included in-text, but not in the bibliography and vice versa, a link, rather than the actual reference is provided in the bibliography.
In summary: the recording of references is accurate and complete.	In summary, at least 80% of the sources are correctly reflected and included in a reference list.	In summary, at least 60% of the sources are incorrectly reflected and/or not included in reference list.

Overall Feedback about the consistency, technical correctness and congruence between in-text referencing and bibliography:

Question 1		**(Marks: 25)**
Briefly explain the following:		
Q.1.1	Two companies consider pooling resources to perform a joint venture. The CEO of the first company meets with his legal team, and the legal team consults a number of middle managers in the proposed product area. Meanwhile, the CEO of the first company sends an email to the CEO of the second company to offer a couple of suggestions concerning the joint venture. Does this scenario follow the OSI model? Explain.	(5)
Q.1.2	Compare the primary differences between asynchronous connections, synchronous, and isochronous connections.	(6)
Q.1.3	Can you transmit a video signal over twisted pair wire? Explain. Be sure to consider multiple scenarios.	(4)
Q.1.4	When designing or updating computer network systems, describe five factors you should consider for media selection criteria.	(10)

Question 2		**(Marks: 20)**
Answer all of the questions below.		
Q.2.1	Describe the basic functions of a network operating system by the use of a diagram. You will receive more marks for your own original examples than for examples in your textbook, from your lecturer, or on *Learn*.	(6)
Q.2.2	Explain by an example of a situation in which a virtual LAN might be a useful tool in a business environment.	(7)

	You will receive more marks for your own original examples than for examples in your textbook, from your lecturer, or on *Learn*.	
Q.2.3	Identify the primary differences between baseband technology and broadband technology and provide two example for each.	(4)
	You are sending and receiving e-mail messages with a friend. Is this e-mail session a logical connection or a physical connection? Explain your answer	(3)

Question 3 **(Marks: 15)**

Answer all of the questions below.

Q.3.1	Give a common business example that mimics the differences between a shared network segment and a dedicated network segment. You will receive more marks for your own original examples than for examples in your textbook, from your lecturer, or on *Learn*.	(10)
Q.3.2	Briefly describe how Wavelength Division Multiplexing works.	(5)

Answer	**Marks**
Discussion is taken directly from the textbook/ lecturer material/ Learn.	**1 to 2**
Discussion is taken directly from the textbook/ lecturer material/ Learn AND has been paraphrased.	**3 to 4**
Original discussion and relevant	**5**

END OF PAPER