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Daffodil International University

Faculty of Science & Information Technology

Department of Computer Science and Engineering

Mid-term Examination, Fall-2026

Course Code: ENG 102 Course Title: Writing and Comprehension

Level: 1 Term: 2 Batch: 72

Exam Duration: 1.5 Hours **Marks: 25**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.		**Reading**	**1x 15= 15 Marks**	**CO1**
		Reading Passage 1: Read the following passage and answer the following questions		
		Materials to take us beyond concrete ***Concrete is everywhere, but it's bad for the planet, generating large amounts of carbon dioxide - alternatives are being developed*** **A** Concrete is the second most used substance in the global economy, after water - and one of the world's biggest single sources of greenhouse gas emissions. The chemical process by which cement, the key ingredient of concrete, is created results in large quantities of carbon dioxide. The UN estimates that there will be 9.8 billion people living on the planet by mid-century. They will need somewhere to live. If concrete is the only answer to the construction of new cities, then carbon emissions will soar, aggravating global warming. And so, scientists have started innovating with other materials, in a scramble for alternatives to a universal commodity that has underpinned our modern life for many years. **B** The problem with replacing concrete is that it is so very good at what it does. Chris Cheeseman, an engineering professor at Imperial College London, says the key thing to consider is the extent to which concrete is used around the world, and is likely to continue to be used. "Concrete is not a high-carbon product. Cement is high carbon, but concrete is not. But it is the scale on which it is used that makes its high carbon. The sheer scale of manufacture is so huge, that is the issue." **C** Not only are the ingredients of concrete relatively cheap and found in abundance in most places around the globe, the stuff itself has marvellous properties: Portland cement, the vital component of concrete, is mouldable and pourable, but quickly sets hard. Cheeseman also notes another advantage: concrete and steel have similar thermal expansion properties, so steel can be used to reinforce concrete, making it far stronger and more flexible as a building material than it could be on its own. According to Cheeseman, all these factors together make concrete hard to beat. "Concrete is amazing stuff. Making anything with similar properties is going to be very difficult." **D** A possible alternative to concrete is wood. Making buildings from wood may seem like a rather medieval idea, but climate change is driving architects to turn to treated timber as a possible resource. Recent years have seen the emergence of tall buildings constructed almost entirely from timber. Vancouver, Vienna and Brumunddal in Norway are all home to constructed tall, wooden buildings.		

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E Using wood to construct buildings, however, is not straightforward. Wood expands as it absorbs moisture from the air and is susceptible to pests, not to mention fire. But treating wood and combining it with other materials can improve its properties. Cross-laminated timber is engineered wood. An adhesive is used to stick layers of solid-sawn timber together, crosswise, to form building blocks. This material is light but has the strength of concrete and steel. Construction experts say that wooden buildings can be constructed at a greater speed than ones of concrete and steel and the process, it seems, is quieter.

F Stora Enso is Europe's biggest supplier of cross-laminated timber, and its vice-president Markus Mannström reports that the company is seeing increasing demand globally for building in wood, with climate change concerns the key driver. Finland, with its large forests, where Stora Enso is based, has been leading the way, but the company is seeing a rise in demand for its timber products across the world, including in Asia. Of course, using timber in a building also locks away the carbon that it absorbed as it grew. But even treated wood has its limitations and only when a wider range of construction projects has been proven in practice will it be possible to see wood as a real alternative to concrete in constructing tall buildings.

G Fly ash and slag from iron ore are possible alternatives to cement in a concrete mix. Fly ash, a byproduct of coal-burning power plants, can be incorporated into concrete mixes to make up as much as 15 to 30% of the cement, without harming the strength or durability of the resulting mix. Iron-ore slag, a byproduct of the iron-ore smelting process, can be used in a similar way. Their incorporation into concrete mixes has the potential to reduce greenhouse gas emissions.

But Anna Surgenor, of the UK's Green Building Council, notes that although these waste products can save carbon in the concrete mix, their use is not always straightforward. "It's possible to replace the cement content in concrete with waste products to lower the overall carbon impact. But there are several calculations that need to be considered across the entire life cycle of the building - these include factoring in where these materials are being shipped from. If they are transported over long distances, using fossil fuels, the use of alternative materials might not make sense from an overall carbon reduction perspective."

H While these technologies are all promising ideas, they are either unproven or based on materials that are not abundant. In their overview of innovation in the concrete industry, Felix Preston and Johanna Lehne of the UK's Royal Institute of International Affairs reached the conclusion that, "Some novel cements have been discussed for more than a decade within the research community, without breaking through. At present, these alternatives are rarely as cost-effective as conventional cement, and they face raw-material shortages and resistance from customers."

A

(Question 1-4)

Reading Passage 1 has eight sections, A-H. Which section contains the following information? Choose the correct letter, A-H

1. an explanation of the industrial processes that create potential raw materials for concrete
2. a reference to the various locations where high-rise wooden buildings can be found
3. an indication of how widely available the raw materials of concrete are
4. the belief that more high-rise wooden buildings are needed before wood can be regarded as a viable construction material

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B **(Questions 5-8)**

Complete the summary below. Write **ONE WORD ONLY** from the passage in each gap.

Making buildings with wood

Wood is a traditional building material, but current environmental concerns are encouraging (5) _____ to use wood in modern construction projects. Using wood, however, has its challenges. For example, as (6) _____ in the atmosphere enters wood, it increases in size. In addition, wood is prone to pests and the risk of fire is greater. However, wood can be turned into a better construction material if it is treated and combined with other materials. In one process, (7) _____ of solid wood are glued together to create building blocks. These blocks are lighter than concrete and steel but equal them in strength. Experts say that wooden buildings are an improvement on those made of concrete and steel in terms of the (8) _____ with which they can be constructed and how much noise is generated by the process.

Reading Passage 2: Read the following passage and answer the following questions

The case for mixed-ability classes

Picture this scene. It's an English literature lesson in a UK school, and the teacher has just read an extract from Shakespeare's Romeo and Juliet with a class of 15-year-olds. He's given some of the students copies of No Fear Shakespeare, a kid-friendly translation of the original. For three students, even these literacy demands are beyond them. Another girl simply can't focus and he gives her pens and paper to draw with. The teacher can ask the No Fear group to identify the key characters and maybe provide a tentative plot summary. He can ask most of the class about character development, and five of them might be able to support their statements with textual evidence. Now two curious students are wondering whether Shakespeare advocates living a life of moderation or one of passionate engagement.

As a teacher myself, I'd think my lesson would be going rather well if the discussion went as described above. But wouldn't this kind of class work better if there weren't such a huge gap between the top and the bottom? If we put all the kids who needed literacy support into one class, and all the students who want to discuss the virtue of moderation into another?

The practice of 'streaming', or 'tracking', involves separating students into classes depending on their diagnosed levels of attainment. At a macro level, it requires the establishment of academically selective schools for the brightest students, and comprehensive schools for the rest. Within schools, it means selecting students into a 'stream' of general ability, or 'sets' of subject specific ability. The practice is intuitively appealing to almost every stakeholder.

I have heard the mixed-ability model attacked by way of analogy: a group hike. The fittest in the group take the lead and set a brisk pace, only to have to stop and wait every 20 minutes. This is frustrating, and their enthusiasm wanes. Meanwhile, the slowest ones are not only embarrassed but physically struggling to keep up. What's worse, they never get a long enough break. They honestly just want to quit. Hiking, they feel, is not for them.

Mixed-ability classes bore students, frustrate parents and burn out teachers. The brightest ones will never summit Mount Qomolangma, and the stragglers won't

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enjoy the lovely stroll in the park they are perhaps more suited to. Individuals suffer at the demands of the collective, mediocrity prevails. So: is learning like hiking?

The current pedagogical paradigm is arguably that of constructivism, which emerged out of the work of psychologist Lev Vygotsky. In the 1930s, Vygotsky emphasised the importance of targeting a student's specific 'zone of proximal development' (ZPD). This is the gap between what they can achieve only with support - teachers, textbooks, worked examples, parents and so on - and what they can achieve independently. The purpose of teaching is to provide and then gradually remove this 'scaffolding' until they are autonomous. If we accept this model, it follows that streaming students with similar ZPDs would be an efficient and effective solution. And that forcing everyone on the same hike - regardless of aptitude - would be madness.

Despite all this, there is limited empirical evidence to suggest that streaming results in better outcomes for students. Professor John Hattie, director of the Melbourne Education Research Institute, notes that 'tracking has minimal effects on learning outcomes'. What is more, streaming appears to significantly - and negatively - affect those students assigned to the lowest sets. These students tend to have much higher representation of low socioeconomic class. Less significant is the small benefit for those lucky clever students in the higher sets. The overall result is that the smart stay smart and the dumb get dumber, further entrenching the social divide.

In the latest update of Hattie's influential meta-analysis of factors influencing student achievement, one of the most significant factors is the teachers' estimate of achievement. Streaming students by diagnosed achievement automatically limits what the teacher feels the student is capable of. Meanwhile, in a mixed environment, teachers' estimates need to be more diverse and flexible.

While streaming might seem to help teachers effectively target a student's ZPD, it can underestimate the importance of peer-to-peer learning. A crucial aspect of constructivist theory is the role of the MKO - 'more knowledgeable other' - in knowledge construction. While teachers are traditionally the MKOs in classrooms, the value of knowledgeable student peers must not go unrecognised either.

I find it amazing to watch students get over an idea to their peers in ways that I would never think of. They operate with different language tools and different social tools from teachers and, having just learnt it themselves, they possess similar cognitive structures to their struggling classmates. There is also something exciting about passing on skills and knowledge that you yourself have just mastered - a certain pride and zeal, a certain freshness to the interaction between 'teacher' and 'learner' that is often lost by the expert for whom the steps are obvious and the joy of discovery forgotten.

Having a variety of different abilities in a collaborative learning environment provides valuable resources for helping students meet their learning needs, not to mention improving their communication and social skills. And today, more than ever, we need the many to flourish - not suffer at the expense of a few bright stars. Once a year, I go on a hike with my class, a mixed bunch of students. It is challenging. The fittest students realise they need to encourage the reluctant. There

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are lookouts who report back, and extra items to carry for others. We make it - together.

C **Questions 9-10**

Choose the correct letter, **A, B, C or D.**

9. The writer describes the Romeo and Juliet lesson in order to demonstrate
A .how few students are interested in literature.
B. how a teacher handles a range of learning needs.
C. how unsuitable Shakespeare is for most teenagers.
D. how weaker students can disrupt their classmates' learning.

10. What does the writer say about streaming in the third paragraph?
A. It has a very broad appeal.
B. It favours cleverer students.
C. It is relatively simple to implement.
D .It works better in some schools than others.

D **(Questions 11-15)**

Do the following statements agree with the claims of the writer in Reading Passage 2? In 11-15 on your answer sheet, choose

YES *if the statement agrees with the claims of the writer*
NO *if the statement contradicts the claims of the writer*
NOT GIVEN *if it is impossible to say what the writer thinks about this*

11. The Vygotsky model of education supports the concept of a mixed-ability class.
12. Some teachers are uncertain about allowing students to take on MKO roles in the classroom.
13. It can be rewarding to teach knowledge which you have only recently acquired.
14. The priority should be to ensure that the highest-achieving students attain their goals.
15. Taking part in collaborative outdoor activities with teachers and classmates can improve student outcomes in the classroom.

2 **Grammar** **0.5x06 = 3 Marks** **CO2**

A **Read the sentences and identify if these sentences are Simple, Complex, Compound, or Compound-complex according to their structure:**

i. With an exceptionally careful examination of the evidence collected from several remote locations, the young scientist identified a previously overlooked pattern in the experimental data.

ii. The critically acclaimed novel that emerged from the author's decade-long study of displaced communities explores the complicated relationship between cultural identity, collective memory, and social belonging.

iii. After reviewing the applications submitted by hundreds of highly qualified candidates, the committee reached a final decision, and the successful applicants were notified by email.

iv. Exhausted after several months of conducting fieldwork in geographically isolated communities, the anthropologist returned to the university

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		carrying hundreds of pages of handwritten notes and hours of recorded interviews. v. When the government unexpectedly introduced the controversial policy without consulting the major professional organizations, several senior representatives expressed serious concerns about its long-term consequences. vi. The experienced journalist with an exceptionally detailed knowledge of international diplomacy and contemporary political affairs produced a thoroughly researched report on the rapidly evolving situation in the region.		
3.		**Writing**	**1x 7 = 07 Marks**	**CO3**
	A	Suppose, you are the Laboratory Coordinator of the CSE Department. Several students have recently misused laboratory computers, installed unauthorized software, and left workstations untidy. Write a *memo* to all CSE students reminding them of the proper use of the computer laboratory.		

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