Birla Institute of Technology & Science, Pilani, Pilani Campus
English Skills for Academics (HSS F224)
Semester I _ 2023-24
End-semester Examination (Open Book)

MM: 70   **Duration: 180 mins**   **Date: 07/12/23/ FN**
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Answer all questions in the answer sheet only.
Do NOT copy in toto the texts given in the questions unless necessary.
Write legibly.
You may choose to highlight the parts that answer specific features.

1. Analyse the *macro* and *micro* features of the following text on "Carbon footprint of India's groundwater irrigation" published in the *Journal of Carbon Management*, Vol.2, Issue 3, 2020. You may choose to write your answer in bullet points or paragraphs.
    Features: **a**. the genre structure **b.** self-mentions **c**. reporting verbs **d**. author's arguments i.e., "I say".
    Specify the aspect first and then elaborate it in at least 70-100 words. (**4 × 5 = 20 Marks**)

India has witnessed the most explosive growth of groundwater withdrawals in the last five decades compared with other prominent groundwater-using countries (Figure 1). Currently, the country accounts for one fourth of the global groundwater extraction (i.e. 251 km3/year) and uses 90% of the abstracted groundwater for irrigation [2]. Groundwater serves irrigation to around 40–45 million hectares of cultivated land – around 60% of the total irrigated area [3]. Until the 1950s, the areas irrigated by groundwater and surface water were uniformly balanced (Figure 2). However, post-1970, there was a steep rise in groundwater irrigation. The drivers of India's silent groundwater revolution have been the atomistic response of millions of smallholders to the mounting population pressure on farmlands and to the demand for a year-round, on-demand water supply to maximize their land productivity [4]. These drivers, coupled with factors like technological advancements in water extraction mechanisms and subsidized electricity for pumping, have spurred the groundwater irrigation boom in the country [5].
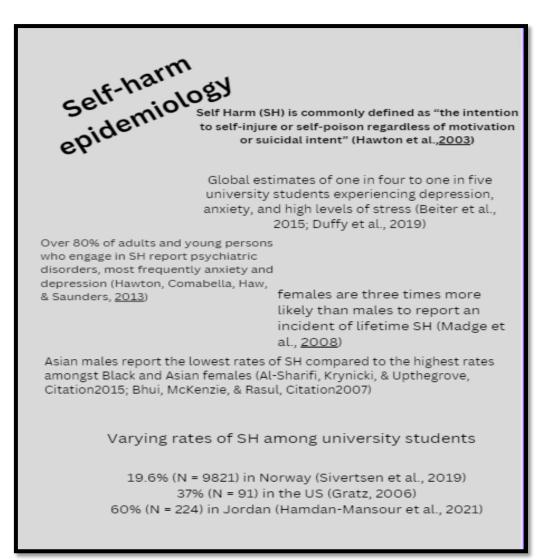
> Figure 1. Groundwater extraction by country, 1940–2010. Source: [1].

> Figure 2. Source-wise irrigation of India, 1950–2015. Source: [6]. Note: Other sources include ponds, springs, river streams, etc.

India's atomized pumping revolution has been central to its agrarian growth and poverty alleviation. It has benefited millions of small and marginal farmers by providing year-round water control, which has led to improved agricultural productivity and cropping intensity [1,4]. However, this rapid unregulated groundwater boom has also created negative externalities for the country's hydrology and environment. Excess groundwater abstraction vis-à-vis recharge in the arid/semi-arid parts has stressed aquifer systems, causing a secular decline in groundwater levels in the region [7]. Several studies have underscored the role of electricity subsidies in unregulated groundwater pumping [5,7,8]. Along with stressing the groundwater reserves, intensive groundwater pumping results in higher energy consumption, sourced from electricity or fossil fuels, resulting in higher carbon emission [9, 10].

The objectives of this article are (a) to estimate the carbon emission associated with groundwater irrigation in India; (b) to analyze the spatial variations in estimated carbon emissions; and (c) to discuss the main factors contributing to increasing the carbon emissions and mitigation strategies to counter them. The study has the advantage of using individual well-level data on 20.5 million irrigators from the recent Fifth Minor Irrigation Census (MIC), which makes the estimation more recent and more accurate compared to previous studies on carbon emissions from India's groundwater pumping.

2. Focusing on documenting the experiences of university students across varying geographical and university locations, the following poster reviewed some research on self-harm (SH). Read the poster and develop **a problem-solution introduction** in 300-400 words with a focus on **managing SH at university, including triggers, maintenance factors, coping strategies, and support-seeking**.
   a. Write the introduction in terms of problem-solution scheme using the CARS model (15 Marks for CARS model genre + 10 Marks for hedges, evidentials, reporting verbs, citations = **25 Marks**)
   b. Prefer integral citations.

Source: *Counselling Psychology Quarterly*, Volume 36, 2023 - Issue 4, Taylor & Francis

3. The following table summarizes the data from the participants who were asked to mention whether or not they would seek counselling at the university's counselling service if they were to experience personal, career, or academic issues. The participants were asked about these three types of counselling because services at this university's counselling centre are organized in these three areas. The frequencies of responses were categorized by participants' gender, racial background, and student status. Provide a critical data commentary, which includes your evaluation, in 200 words.   **(Commentary 5 Marks + Evaluation 5 Marks = 10 Marks)**

Percentage of Participants Willing to Seek Counselling for Personal, Career and Academic Issues Based on Gender, Racial Background, and Student Status

Variable	Personal Counselling	Career Counselling	Academic Counselling
Gender			
Men	45% ($n = 37$)	56% ($n = 48$)	42% ($n = 36$)
Women	62% ($n = 61$)	65% ($n = 64$)	48% ($n = 47$)
Racial Background			
Asian	43% ($n = 28$)	57% ($n = 39$)	40% ($n = 27$)
Caucasian	63% ($n = 42$)	65% ($n = 43$)	46% ($n = 31$)
Student Status			
Graduate	42% ($n = 28$)	55% ($n = 35$)	38% ($n = 26$)
Undergraduate	58% ($n = 66$)	65% ($n = 73$)	51% ($n = 58$)

Note. The numbers reported in parentheses represent the total number of participants indicating a willingness to seek counselling for a personal, career, or academic issue.

Source: Canadian Journal of Counselling, 2003

4. Argumentative Essay: By synthesizing the information given in both Text A and Text B, write your 'argument' on the **impact of AI on the workplace** in the next few years**.** Your argument must critique the perspectives given while taking a clear stance (try to use attitude markers, boosters, code glosses, frame markers, and transitions). Write the essay in 300-400 words. Give your essay an appropriate title. (10 Marks Argument + 5 Marks Markers = **15 Marks**)

 Text A

In an economy where data is changing how companies create value, experts predict that using artificial intelligence (AI) at a larger scale will add as much as $15.7 trillion more to the global economy by 2030. As AI is changing how companies work, many believe that both production and profits will increase by manifold if intelligent machines replace human employees. This is already happening: intelligent systems are displacing humans in manufacturing, service delivery, recruitment, and the financial industry. Such a trend is likely to empower smaller countries which cannot afford human employment in large scale in the production of certain products. For example, in chemical manufacturing units and nuclear power generation units, deploying AI based technology will be safer than human employees. In line with Alan Turing's philosophy, AI is likely to show advanced human intelligence soon and could act, feel, speak, and decide like humans. This type of

intelligence is extremely useful in an organizational setting: Because of its imitating abilities, AI has the quality to identify informational patterns that optimize trends relevant to the job. In addition, contrary to humans, AI never gets physically tired, and as long it's fed data, it will keep going. (*This text has been adapted and modified from Harvard Business Review to suit the task requirements*)

Text B

Several scholars are skeptical about the adoption of AI in the workplace. They highlight the drawbacks linked to the overuse of intelligent technologies by organizations. For instance, Dave, (2019) found the ineffectiveness of AI when it replaced middle-skill jobs with a high level of literacy, numeracy, and problem-solving ability. Makarius et al., (2020), found that many people feared losing their jobs with AI implementation in their organizations, which often led to increased employee stress, lower organizational commitment, and reduced productivity (Brougham & Haar, 2018). Fountaine et al. (2019) commented that, despite the time, effort, and resources invested by many organizations, they do not experience the anticipated benefits and ultimately deem it a failure. For instance, a survey of executives performed by Boston Consulting Group and MIT found that seven out of ten AI projects generated little impact and that AI implementation plans dropped from 20% in 2019 to 4% in 2020 (The Economist, 2020). In a similar study of senior managers working on 152 AI projects, Deloitte (2017) reported that 47% of respondents found it difficult to integrate AI with existing people, processes, and systems (Makarius et al., 2020), thus finding its intervention mostly unhelpful and unsuccessful.

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