ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

Department of Computer Science and Engineering (CSE)

Final Semester Examination   Winter Semester, A. Y. 2020-2021
Course Code: HUM 4741   Full Marks: 50
Course Title: Business Communication & Law   Duration: 1.5 Hours

There are 4 (FOUR) questions and answer 3 (THREE) questions. Question **3 & 4 are compulsory**. The examination is Online. Marks of each question and corresponding CO and PO are written in the brackets-

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1. a) In the past few years, Microsoft has been promoting PixelSense, a hardware– (CO3
        software product that enables people to interact with data on the top of a table. PO6)
        PixelSense initiates a new product category. PixelSense paints the top of the 30-   12
        inch table with invisible, near-infrared light to detect the presence of objects. It can
        respond to as many as 52 different touches at the same time. According to
        Microsoft, this means that four people sitting around the PixelSense table could
        use all 10 of their fingers to manipulate up to 12 objects, simultaneously.
        PixelSense uses wireless and other communications technologies to connect to
        devices that are placed on it, such as cameras or cell phones. When a camera is
        placed on PixelSense, pictures "spill" out of it, and users can manipulate those
        pictures with their hands. Products can be placed on PixelSense, and their product
        specifications are displayed. Credit cards can be placed on PixelSense, and items
        to be purchased can be dragged or dropped onto the credit card. Currently,
        Microsoft PixelSense is marketed and sold to large-scale commercial organizations
        in the financial services, healthcare, hospitality, retail, and public service business
        sectors. One of the first implementers of PixelSense was the iBar lounge at
        Harrah's Rio All-Suite Hotel and Casino in Las Vegas, Nevada. The subtitle for
        the press release announcing iBar's system read, "Harrah's Reinvents Flirting and
        Offers New Uninhibited Fun and Play to iBar Patrons." The potential uses for
        PixelSense are staggering. Maps can display local events, and consumers can
        purchase tickets to those events by just using their fingers. PixelSense can also be
        used for new computer games and gambling devices. Children can paint on
        PixelSense with virtual paintbrushes. Numerous other applications are possible.
        Microsoft envisions PixelSense as a ubiquitous billion dollar technology that will
        find its way to tabletops, countertops, and mirrors.

        As you can see at the PixelSense Web site, this product can be used for many
        different purposes in many different places, such as restaurants, retail kiosks, and
        eventually at home. Probably most of the eventual applications for PixelSense have
        not yet been envisioned. One clear application, however, is in the gambling and
        gaming industry. Imagine placing your credit card on a PixelSense gambling
        device and playing the night away. Every time you lose, a charge is made against
        your credit card. Soon, before you know it, you've run up $15,000 in debt, which
        you learn when PixelSense tells you you've reached the maximum credit limit on
        your card. There will be increased worldwide demand for workers who can apply
        new technology and products to solve business problems in innovative ways.
        PixelSense is an excellent example of a new technology that will be applied
        innovatively.

Instructions:
I. Consider uses for PixelSense at your university. How might PixelSense be used in architecture, chemistry, law, medicine, business, geography, political science, art, music, or any other discipline in which you have interest? Describe one potential application for PixelSense for two different disciplines.

II. It is evident from the case that many new applications are coming up in the market, resulting in an increase in new career opportunities. Do you think that knowledge of information systems will enhance prospects of better job opportunities in the context of rapid growth of mobile systems? Perform a SWOT analysis to answer this question.

III. You will sometimes hear the expression "Emerging technology is constantly leveling the playing field," meaning that technology eliminates competitive advantages of existing companies and enables opportunities for new companies. How does this statement pertain to PixelSense, Apple, and Google?

b) We often tell our customers, peers, and suppliers how to assess and manage risk. Engineering risks include technical risk, schedule risk, and cost risk. Many technical books about risk assessment and management have been published. However, risk management involves risk communication, which involves listening to identify various risks correctly.
Distinguish the characteristics of a poor listener and effective listener. | 5

c) COVID-19 creates a huge job loss and unemployment problem all over the world. Around 220 million youths in Asia-Pacific to be badly affected by the pandemic mostly in agriculture, textile and construction sector. So how do you prepare yourself for the new normal job market? | 3

2. a) Data scientists are the key personnel in today's world to realize the opportunities of big data and analytics. They bring data to structure it, find compelling patterns in it, and advise executives on the implications for products, processes, and decisions. Despite heavy investments to acquire talented data scientists and take advantage of the analytics boom, many companies have been disappointed in the results. In this circumstances, how does a company can accelerate their business strategy using data science? | (CO3 PO6) 5

b) A job circular was published by Banglalink in "The Daily Star" on August 31, 2021 to recruit some "Network Planning Specialist Engineer" under technology division. Major Job responsibilities include: | 10
- Analyze the fault rate of power elements from field data, and other reports; consider the network growth and prepare requirements to solve the problems.
- Align teams to allocate necessary budget for network growth and corrective measure.
- Ensure on time ordering, work order, asset requisition of power equipment.
- Ensure emergency stock of power elements for critical equipment for capacity sites.
- Evaluate the new power solution and recommendation for network.

- Provide technical specifications and relevant support to purchase equipment.
- Manage business partners to get the most effective and efficient services.

Required Academic Qualifications, Experiences, Knowledge & Skills:
- B.Sc. in CSE from any reputed/recognized university.
- Minimum 1 year of relevant experience is expected.
- Knowledge of power elements inventory management, power system budget utilization, and equipment specification finalization process.
- Analytical ability, reporting, performance and fault analysis.
- Physical verification of equipment, work order and assets requisitions.

Instruction:
Write a "**cover letter**" to the head of HR, Banglalink, Gulsan-1213, Dhaka. Assuming that you are the appropriate candidate and you have required skills, experiences and educational qualifications. (The cover letter should be fitted within one Page)

c) **Composite Filaments:** MakerBot really pushed 3D ahead when it introduced several new *composite* filaments. These composite filaments combine traditional PLA (polylactic acid) thermoplastic with materials like wood, bronze, iron, and limestone. They can be used to 3D-print objects that look and behave like their real-world counterparts. Wood furniture can be printed, sanded, and stained just like real wood. And it feels like wood too. Metal objects like jewelry, tools, and parts can be printed and polished and look just like their pure-metal cousins. Even the limestone composite filament produces objects that look and feel like real limestone. MakerBot's new composite filaments are important because they make it economical to now print in metal, wood, and stone. In the past it was possible to 3D-print in metal, but metal laser sintering was expensive. These new composite filaments make it possible to print objects like a hammer that have both metal and wood parts. The downside is that printing with these new composite filaments requires a unique print head for each type of filament. For most consumers, the cost of an additional print head to print in each additional material will probably be a minor issue. MakerBot's introduction of new composite filaments has the potential to push 3D printing beyond the use of hobbyists, inventors, and manufacturers. A reasonably priced 3D printer that can print more than 50 percent of the objects in a typical household could be a valuable home appliance.

Instructions:
1. Why are 3D printers a potentially disruptive technology to manufacturing?
2. How could new composite filaments affect innovation, prototyping, and new product development?

3. a) The basic idea is that a marketer or Research and Development (R&D) starts with many business ideas that need to be examined, then shaped into concepts and tested until a final market offering is selected and launched. The innovation funnel provides a solution for explicitly defining the information requirements for managing the innovation process from idea to launch. Innovation funnel involves 4 stages such as idea generation, pre-field assessment, appropriability idea generation and launch & roll-out.

   (CO1 PO3) 10

   Instructions:
   i. Use a hypothetical example of a new business idea and fit in the innovation funnel.
   ii. How do you ensure that your business idea is a new one?

   b) A carefully chosen story can help the leader of an organization translate an abstract concept into a meaningful mandate for employees. The key is to know which narrative strategies are right for what circumstances.
   Critically examine the power of narrative in communication.

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4. a) "All agreements are not contracts, but all contracts are agreement." Discuss the statement by explaining essential elements of a valid contract.

   (CO2 PO1) 5

   b) X was a minor admitted to the benefits of a partnership. After attaining majority he decided not to continue as a partner. He did not give any public notice of the same. Is he liable for the acts of other partners after his retirement?

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   c) An offer is not made until it is communicated to the offeree." Explain with illustrations.

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