Level: Bachelor   Semester: Spring   Year   : 2020
Programme: BCIS   Full Marks : 70
Course: Digital Economy   Pass Marks: 31.5
                                               Time   : 2 hrs.

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Group 'A'

Attempt all questions.   (5×10=50)

1. Discuss about the business value of knowledge. How does knowledge hierarchy support the business operations, decision making and differentiation? Explain with suitable business example.

   OR

   Network readiness is a fundamental pre requisite for digital transformation. Governments and development agencies need to have an understanding of network readiness of a nation in terms of an index. Discuss the pillars and sub pillars required to form a network readiness index. How do you evaluate network readiness of Nepal?

2. Payment gateways have drastically changed the ways of business transaction in industry for a decade. Specially, in present scenario of pandemic situations, people are opting different ways for electronic payment. Discuss how cashless transactions are executed in real time. What do you recommend for protecting privacy of your customers?

3. Corporates in business world are shifting towards ERP platform to harvest its benefits. How do you evaluate the adoption of ERP in Nepalese public and private enterprises? What are the barriers to adopt ERP and how such barriers can be overcome?

4. Government of Nepal is opting to implement procurement and G2B payment electronically. The system needs provision for dispute resolution in any contract undergone or transaction committed. Legal procedure in court needs a complete set of authentic documents and transaction traces. How can you ensure authenticity and non repudiation in electronic transaction with a public key infrastructure? Support your view with reference to legal framework for the

mechanism.

5. Internet technologies help a business to form strategic alliance with its customers and suppliers. Recommend and elaborate any two suitable wired and wireless broadband technologies to implement e-business in Nepalese geography. Can you think of satellite broadband for real-time application? Justify.

Group 'B'
Problem-solving/case studies   (1×20=20)

6. Digitization and the related datafication produce huge amounts of data. Organizations have started to exploit these new data in order to gain benefits. Exploring this" big data jungle" is a new area for both scholars and practitioners, and the experiences of early adopters are valuable. Today, new digital technologies produce vast amounts of various types of data, often referred to as big data. From the point of view of technology, big data are different from traditional transaction data, requiring new data management and analysis technologies. More importantly, several sources claim that big data have potentially huge effects on many industries. Technology and data drives change, and as suggest, companies must link their strategy with technology. The business environment is changing. However, it is difficult to forecast the impacts at the micro level, as digitization and data deluge are a new, emerging phenomenon.

The effects of this phenomenon are different for each company. As an example, self driving cars, which will invade the markets in the future, will have significant effects on various firms, like car dealers and insurance companies. However, the potential and the challenges that a car dealer faces will differ significantly from those of an insurance company. Realizing the potential implies that this new, data-driven paradigm will affect companies' strategies and business models heavily. Several excellent pieces of work exist on business transformation.

There are some trailblazers, Google and Amazon being the most obvious examples, which have built their business models around data. These kinds of examples, as well as some previous studies indicate that companies utilizing data heavily gain competitive advantage over their less data-driven rivals. However, the data-driven approach is still a new paradigm for most organizations. In addition, established companies have their own history, processes, and capabilities. They just cannot turn their existing structures and

business models upside down at once. The transformation takes time. When established firms start to explore the possibilities of big data, they can learn from the experiences and methods of the early adopters. Several studies recognize the need for guidelines and a conceptual framework for big data. One way towards this goal is to examine the experiences of real big data projects.

The three businesses (or data usage) related themes are:

• Decision-making: Several studies discussed enhancing the decision-making processes, enabling data-driven decision-making, or providing actionable insights to managers. Several studies also investigated transportation or passenger patterns, providing insights into planning and decision-making. Embedding analytics and insights into processes and decision-making routines is important. However, according to the case studies, there are challenges to overcome in this area, such as lack of data-driven organizational culture, missing analytics strategy, and lack of leadership.

• Innovation: Big data was seen as an enabler for data-driven innovation and faster innovation cycles. In addition, successful and cost-efficient usage of crowd-sourced big data analytics, and used social media data to predict the winner of a song contest.

• Business value: According to the studies, big data is a vehicle to create new value. The studies recognized positive results and opportunities, such as a business model that was based on big data, energy and cost savings, business transformation, increased revenue and customer satisfaction better transparency over operations generating value by secondary use of data, and deeper understanding of real events. The other side of this coin is that there are challenges related to the technical themes. The two ICT-related themes cover data and analytics, new data sources, and data management aspects.

Data management through the whole lifecycle of data, from the sources to the analytics, is a central aspect. In general, the volume, variety, and velocity of big data can be challenging for data management and technology. Companies are experimenting with new technologies. Some studies mentioned that managing the volumes of data is a key challenge. Moreover, the case studies pointed out additional aspects that need to be addressed, such as data inconsistencies and poor data quality. Several studies also reported concerns for potential security and/or privacy issues. Applying proper analytics to the vast amounts of data is the key in gaining value and insights. New data types, such as social media posts or text

documents, require new kinds of analytics. This is a multi-faceted issue in addition to new technology; organizations need new talent, both business-oriented and technology-skill.

Questions:

a) How does datafication drive the change in different industries?
b) What are the effects of big data on the decision-making processes of the organization?
c) How does big data enable innovation? What are the driving forces behind the new, data-based innovation processes?
d) How do the existing infrastructure and company policies match with big data experimenting?