The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Electrical & Computer Engineering

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Time	: 0930-1230hrs
Duration	**: 3 hours**

General Instructions

1. Read all instructions carefully before answering the questions.

2. This question paper consists of **Seven (7)** questions in **Thirteen (13)** pages.

3. Answer all questions.

4. This is a Closed Book Test (CBT).

5. Answers should be in clear hand writing.

6. Do not use Red colour pen.

Question 01

Vocabulary - Fill in the blanks by choosing the most appropriate word from the box.

consumers		include	thereby	present		individual
	ensure		begun	delivered	consists	rapidly
allocation	latter		essential		locations	access

Computing is being transformed to a model consisting of services that are commoditized and (1)_____ in a manner similar to traditional utilities such as water, electricity, gas, and telephony. In such a model, users (2)_____ services based on their requirements without regard to where the services are hosted or how they are delivered. Several computing paradigms have promised to deliver this *utility computing* vision and these (3)_____ cluster computing, Grid computing, and more recently *Cloud computing*. The (4)_____ term denotes the infrastructure as a *"Cloud"* from which businesses and users are able to access applications from anywhere in the world on demand. Thus, the computing world is (5)_____ transforming towards developing software for millions to consume as a service, rather than to run on their (6)_____ computers.

At (7)_____, it is common to access content across the Internet independently without reference to the underlying hosting infrastructure. This infrastructure (8) _____ of data centers that are monitored and maintained around the clock by content providers. Cloud computing is an extension of this paradigm wherein the capabilities of business applications are exposed as sophisticated services that can be accessed over a network. Cloud service providers are incentivized by the profits to be made by charging (9)_____ for accessing these services. Consumers, such as enterprises, are attracted by the opportunity for reducing or eliminating costs associated with "in-house" provision of these services. However, since cloud applications may be crucial to the core business operations of the consumers, it is (10)_____ that the consumers have guarantees from providers on service delivery. Typically, these are provided

through Service Level Agreements (SLAs) brokered between the providers and consumers.

Providers such as Amazon, Google, Salesforce, IBM, Microsoft, and Sun Microsystems have (11)_____ to establish new data centers for hosting Cloud computing applications in various (12)_____ around the world to provide redundancy and ensure reliability in case of site failures. Since user requirements for cloud services are varied, service providers have to (13)_____ that they can be flexible in their service delivery while keeping the users isolated from the underlying infrastructure. Recent advances in microprocessor technology and software have led to the increasing ability of commodity hardware to run applications within *Virtual Machines* (VMs) efficiently. VMs allow both the isolation of applications from the underlying hardware and other VMs, and the customization of the platform to suit the needs of the end-user. Providers can expose applications running within VMs, or provide access to VMs themselves as a service (e.g. Amazon Elastic Compute Cloud) (14)_____ allowing consumers to install their own applications. While convenient, the use of VMs gives rise to further challenges such as the intelligent (15)_____ of physical resources for managing competing resource demands of the users.

[from https://www.sciencedirect.com/science/article/pii/S0167739X08001957]

(15 marks)

Question 02

Grammar – Write the correct form of the verbs within brackets to fill in the blanks.

Sundar Pichai (1)_____ (be) a computer engineer and the current CEO of Google Inc. The technology giant Google, which (2)_____ (specialize) in Internet-related services and products, (3)_____ (undergo) a major corporate restructuring in 2015 following which Alphabet Inc (4)_____ (launch) as its parent company with co-founders Larry Page as its CEO and Sergey Brin as President. Pichai, who had been serving as Google's head of Products and Engineering, was named the new CEO of Google which is the biggest company under Alphabet Inc. Pichai (5)_____ (join) Google years ago in 2004 as a product manager and led the innovative efforts

for several of Google's products including Google Chrome and Chrome OS which (6)_____ (go) on to become highly successful. Eventually he took over the management of other Google products like Gmail and Google Docs, and (7)_____ (rise) through the ranks rapidly. Born in Chennai, India, Pichai was bright and creative from a young age. Having (8)_____ (receive) his education from some of the most prestigious institutions in the world, he (9)_____ (work) in engineering and product management at Applied Materials and in management consulting at McKinsey & Company before becoming a part of Google. Pichai (10)_____ (be) well-liked by his colleagues and is dubbed as the "man behind Google's most important products.

[From https://www.thefamouspeople.com/profiles/sundar-pichai-6439.php]

(10 marks)

Questions 03

Fill in the blanks with appropriate words.

An interview is (1)_____ conversation between two or more people where questions are asked by (2) _____ interviewer to elicit facts or statements from (3) _____ interviewee. It is used to analyse (4) _____ candidates aspiring to join an organization. However, on (5) _____ important day like (6) _____ job interview, many lose confidence. This in turn lets (7) _____ appropriate opportunity slip out of hand, even if you deserve (8) _____ job. Nervousness is natural, but the trick is to project self-confidence and prove that you're worth it. First impression may or may not be (9) _____ last one, but it definitely has (10) _____ lasting impression. Make sure, you get it right!

[From https://www.indiatoday.in/education-today/jobs-and-careers/story/facing-an-interview-tips-and-tricks-to-boost-your-confidence-182668-2014-02-25]

(10 marks)

Question 4

(a) Transitional words and phrases – Underline the most suitable transitional word/phrase

Paragraph 1

In modern life, social media is developing fast. It is used by many people all over the world. Social media is especially very popular among the young. (1)Firstly/However/Consequently, there are many young people who cannot control themselves and are addicted to social media. Addiction to social media has many serious effects, including poor study habits, living away from reality and bad health.

Paragraph 2

(2) First/Next/Although, addiction to social media makes the youth have bad grades in studies. Because of social media, many students who were excellent students have become bad students. Every day, these students come to class, but they do not focus on studying. While their professors are teaching, they are using cellphones to surf Facebook, Instagram or chat with friends on Messenger. (3)In contrast/Then/Moreover, not only at school but also at home these young students who are addicted to social media do not do exercise or read the new lesson before going to school, because they are busy with social media. (4) Therefore/ However/For example, Khanh, a young girl from Vietnam, is addicted to social media. In the past, she was a hard-working student. However, everything has changed since she started using social media too much. In classes, instead of listening to the professor, she always posts selfies on Facebook and Instagram. At home, with the attraction of social media, she continues using her cellphone and does not study or do assignments. (5) In addition/However/As a result, in the mid-term exam and final exam, she only got C and D grades. Addiction to social media causes a bad habit in studies. It can change a young person from an excellent student to a bad one.

Paragraph 3

(6) On the other hand/Secondly/Finally, young people who are addicted to social media can live far away from reality. Because of using a cell phone all day, they will not have time for outdoor activities such as playing sports or camping. Gradually, they will only live in a virtual world. Amanda, a teenager in America, is a clear example. When her mother bought her a cell phone for her 18th birthday, she became a person addicted to social media. She did not go swimming with her friends during weekends. She rarely talked with her parents. During family vacation, she always took photos of food and places she visited and notified her friends on Facebook or Instagram. Now, she posts her feeling status with a photo on social media every day. Her life is updated frequently on social media. Social media is regarded as the world she lives in, the world in which we only communicate through icons, comments and likes.

Paragraph 4

(7) Contrastingly/ Therefore/Thirdly, using social media too much will have a serious impact on health. Because the young are addicted to social media, they will go to bed late to read news on Facebook or chat with friends. Staying up late is really harmful to the health, especially, the brain. If the young do not sleep enough, their health will be affected seriously by losing weight or always feeling tired. Their brains also will not work effectively and they will be in sleepy condition. (8) In addition/ As a result/Finally, addiction to social media can cause depression in the young. When the young use social media, they will see other people on social media. If the young see other people who are better than them in appearance or talent, they can feel inferior. These young people can envy the people who are more famous or intelligent than them, and they also feel ashamed of themselves. They always wonder why they cannot be excellent, talented or beautiful like others. (9) Moreover/Therefore/Nonetheless, they feel under pressure, stressed and depressed. These mental problems are very dangerous to the young people because these mental problems cause the young people lose their minds and eventually, choose death.

Paragraph 5

(10) However/ In conclusion/Besides, although using social media has many benefits in our lives, addiction to social media is not good. It will have awful influences on studying, make us live way from reality and have bad effects on health. In order to avoid being addicted to social media, young people should spend more time playing sports, studying and taking part in activities in schools.

[from https://www.ukessays.com/essays/young-people/effects-social-media-people-6680.php]

(10 marks)

(b) Re-read the above passage in Question 04 (a) to answer the following questions.

(i) Select and write down the thesis statement of the above passage.

_____

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(5 marks)

(ii) Select from the passage above and write down the topic sentences for each of the paragraphs below.

Paragraph 1

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Paragraph 2

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Paragraph 3

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Paragraph 4

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Paragraph 5

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(05 marks)

Question 05

Comprehensions - Read the passage and answer the questions that follow.

1   Learning about research is a lot like learning about anything else. To start, you
2   need to learn the jargon people use, the big controversies they fight over, and the
3   different factions that define the major players. We'll start by considering five
4   really big multi-syllable words that researchers sometimes use to describe what
5   they do. We'll only do a few for now, to give you an idea of just how esoteric the
6   discussion can get (but not enough to cause you to give up in total despair). We
7   can then take on some of the major issues in research like the types of questions
8   we can ask in a project, the role of time in research, and the different types of
9   relationships we can estimate. Then we have to consider defining some basic
10   terms like variable, **hypothesis**, data, and unit of analysis. If you're like me, you
11   hate learning vocabulary, so we'll quickly move along to consideration of two of
12   the major fallacies of research, just to give you an idea of how wrong even
13   researchers can be if they're not careful (of course, there's always a certainly
14   probability that they'll be wrong even if they're extremely careful).

15 Research involves an eclectic blending of an enormous range of skills and
16 activities. To be a good social researcher, you have to be able to work well with
17 a wide variety of people, understand the specific methods used to conduct
18 research, understand the subject that you are studying, be able to convince
19 someone to give you the funds to study it, stay on track and on schedule, speak
20 and write persuasively, and on and on. Here, I want to introduce you to five terms
21 that I think help to describe some of the key aspects of **contemporary** social
22 research. (This list is not exhaustive. It's really just the first five terms that came
23 into my mind when I was thinking about this and thinking about how I might be
24 able to impress someone with really big/complex words to describe fairly
25 straightforward concepts). I present the first two terms -- theoretical and empirical
26 -- together because **they** are often contrasted with each other. Social research is
27 theoretical, meaning that much of it is concerned with developing, exploring or
28 testing the theories or ideas that social researchers have about how the world
29 operates. But it is also empirical, meaning that **it** is based on observations and
30 measurements of reality -- on what we perceive of the world around us. You can
31 even think of most research as a blending of these two terms -- a comparison of
32 our theories about how the world operates with our observations of its operation.
33 The next term -- nomothetic -- comes (I think) from the writings of the
34 psychologist Gordon Allport. Nomothetic refers to laws or rules that **pertain** to
35 the general case (nomos in Greek) and is contrasted with the term "idiographic"
36 which refers to laws or rules that relate to individuals (idiots in Greek???). In any
37 event, the point here is that most social research is concerned with the nomothetic
38 -- the general case -- rather than the individual. We often study individuals, but
39 usually we are interested in generalizing to more than just the individual. In our
40 post-positivist view of science, we no longer regard certainty as **attainable**. Thus,
41 the fourth big word that describes much contemporary social research is
42 probabilistic, or based on probabilities. The inferences that we make in social
43 research have probabilities associated with them -- **they** are seldom meant to be
44 considered covering laws that pertain to all cases. Part of the reason we have seen
45 statistics become so dominant in social research is that it allows us to estimate
46 probabilities for the situations we study. The last term I want to introduce is
47 causal. You've got to be very careful with this term. Note that **it** is spelled causal
48 not casual. You'll really be embarrassed if you write about the "casual hypothesis"
49 in your study! The term causal means that most social research is interested (at
50 some point) in looking at cause-effect relationships. **This** doesn't mean that most
51 studies actually study cause-effect relationships. There are some studies that
52 simply observe -- for instance, surveys that seek to describe the percent of people
53 holding a particular opinion. And, there are many studies that explore
54 relationships -- for example, studies that attempt to see whether there is a
55 relationship between gender and salary. Probably the vast majority of applied
56 social research consists of these descriptive and correlational studies. So why am
57 I talking about causal studies? Because for most social sciences, it is important

58 that we go beyond just looking at the world or looking at relationships. We would
59 like to be able to change the world, to improve it and **eliminate** some of **its** major
60 problems. If we want to change the world (especially if we want to do this in an
61 organized, scientific way), we are automatically interested in causal relationships
62 -- ones that tell us how our causes (e.g., programs, treatments) affect the outcomes
63 of interest.

1. Put a (√) if the statement is True or a (X) if the statement is false.

  (i)   Knowing technical words is the first and foremost when doing research. (   )

  (ii)   Empirical research tests the reality of what's around us. (   )

  (iii)   According to the passage, Gordon Allport is an Empirical researcher (   )

  (iv)   Statistics play a crucial role in social research. (   )

  (v)   Research which explore cause and effect are called casual studies (   )

(5 marks)

2. What do the following words mean? Underline the best option.

  (i)   Hypothesis (line 10)

     (a) analysis   (b) statistics   (c) presupposition   (d) suppression

  (ii)   contemporary (line 21)

     (a) content   (b) current   (c) formal   (d) academic

  (iii)   pertain (line 34)

     (a)attain   (b) relate   (c) demonstrate   (d) highlight

  (iv)   attainable (line 40)

     (a) despair   (b) severe   (c) radical   (d) achievable

  (v)   Eliminate (line 59)

     (a) dissuade   (b) consider   (c) theorize   (d) remove

(5 marks)

3. What is the purpose of the passage? Write in your own words.

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_____

(5 marks)

4. What to the following words refer to?
   (a) they (line 26)   - _____

   (b) it (line 29)   - _____

   (c) they (line 43)   - _____

   (d) it (line 47)   - _____

   (e) this (line 50)   - _____

(5 marks)

Question 06

Write an essay on **one** of the following topics. Make sure that your essay has an introduction, 1-2 body paragraphs and a conclusion. Word limit 150 – 250 words.

a) The impact of technology on life
b) Is education too commercialized nowadays?
c) Pros and cons of globalization.

(15 marks)

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Question 07

Imagine that you are working on a project for an international client. Due to certain unavoidable circumstances, you feel that you cannot meet the deadline offered by your client. As the team leader, write a letter to the client company requesting for an extension.

(10 marks)

(END)