



KIST COLLEGE OF MANAGEMENT

Kamalpokhari, Kathmandu

Pre-Board Examination

2015

Full Marks: 40

Time: 2 hrs.

BIM/ First Semester/ ITC 211 : Computer Information System

Candidates are required to answer the questions in their own words as far as practicable
Attempt ALL Questions:

Group 'A'

1. Brief Answer Questions:

[15×1=15]

- i. List the factor to be considered while purchasing the computer.
- ii. Why is language translator required?
- iii. Differentiate between softcopy output and hardcopy output.
- iv. What is cache memory? Why it is required in computer system?
- v. Why is SMTP protocol used?
- vi. What is server side scripting language? Give example.
- vii. What are the uses of multimedia?
- viii. Differentiate between laser printer and inkjet printer.
- ix. Mention the two major benefits of computer network.
- x. What is the purpose of search engine?
- xi. List any three ethical issues related with computer system.
- xii. What is genetic algorithm?
- xiii. What is message confidentiality?
- xiv. Why is data encrypted?
- xv. Diagrammatically show the components of Expert system?

Group 'B'

Short Answer Questions:

[5×3=15]

2. What do you mean by network topology? Explain about ring topology.
3. Define E-R diagram. Draw an E-R diagram of library management system.
4. What is Neural Network? How does Neural Network work?
5. What types of activities refer to computer crime? Define virus, worms and spyware.
6. Define BUS? Briefly describe data communication and voice communication.

Group 'C'

Long Answer Questions:

[2×5=10]

7. What is object oriented programming language? Explain the features of OOPs.
8. Write an algorithm and flowchart to display the following series.
1, 1, 2, 3, 5, 8, 13, 21, 34

KIST COLLEGE OF MANAGEMENT
(Affiliated to Tribhuvan University)
Kamalpokhari, Kathmandu
2015
Pre-board Examination (SET-A)

Candidates are required to answer the question in their own words as far as practicable
Group 'A'

Brief Answer Questions:

[10 1=10]

1. How many flip flops are required to design MOD-16 counter?
2. It is possible to implement counting function using data flip flop? Support your answer.
3. Why flip-flops are called bistable device
4. How many flip flops are required to generate a 7 Hz pulse from 56 Hz pulse?
5. A DE multiplexer is having 5 select lines. How many input lines does it have?
6. A flip-flop is presently in the RESET state and must go to the SET state on the next clock pulse. What must J and K be?
7. If a 10 bit ring counter has the initial state 1001110000, determine the state after fifth clock pulse?
8. What is advantage of Johnson counter over ring counter
9. What is advantage of PLA over ROM?
10. What is the minimum number of inverters required to find the 1's complement of (1010000101)

Group 'B'

Short Answer Questions:

[5 4=20]

11. a. If A=56 and B=65, then calculate $(-A) + (-B)$ using 2's complement concept.
b. Compare Analog and Digital signal
12. Design 3-bit asynchronous binary up/down counter.
13. Discuss flip flop operating characteristics.
14. You are provided with a bit sequence 1110 to operate with Serial In/Out register. Describe the store and retrieve mechanism with supportive diagram and also draw the timing diagram.
15. Design 4 bit gray code counter using JK flip-flops.

Group 'C'

Long Answer Questions:

[2 5=10]

16. Simplify following function using K-map:
 $F(w,x,y,z) = \sum m(3,4,7,8,14)$ with don't care condition $d(w,x,y,z) = \prod(1,6,9,13)$
 - a) AND-OR-NOT gate
 - b) Minimum number of NOR gates.
 - c) Minimum number of NAND gates.
17. Design a synchronous sequential circuit using D- flip flop with one input A and an output B. The input A is a serial message and the system reads A one bit at time. The output B=1 whenever the pattern 010 is encountered in the serial message.

Candidates are required to answer the question in their own words as far as practicable

Group 'A'

Brief Answer Questions:

[10 1=10]

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2. It is possible to implement counting function using data flip flop? Support your answer.
3. Why flip-flops are called bistable device
4. How many flip flops are required to generate a 7 Hz pulse from 56 Hz pulse?
5. A DE multiplexer is having 5 select lines. How many input lines does it have?
6. A flip-flop is presently in the RESET state and must go to the SET state on the next clock pulse.

What must J and K be?

7. If a 10 bit ring counter has the initial state 1001110000, determine the state after fifth clock pulse?
8. What is advantage of Johnson counter over ring counter
9. What is advantage of PLA over ROM.?
10. What is the minimum number of inverters required to find the 1's complement of (1010000101)

Group 'B'

Short Answer Questions:

[5 4=20]

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12. Design 3-bit asynchronous binary up/down counter.
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14. You are provided with a bit sequence 1110 to operate with Serial In/Out register. Describe the store and retrieve mechanism with supportive diagram and also draw the timing diagram.
15. Design 4 bit gray code counter using JK flip-flops.

Group 'C'

Long Answer Questions:

[2 5=10]

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 $F(w,x,y,z) = \sum m(3,4,7,8,14)$ with don't care condition $d(w,x,y,z) = \sum (1,6,9,13)$
 - d) AND-OR-NOT gate
 - e) Minimum number of NOR gates.
 - f) Minimum number of NAND gates.
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Tribhuvan University
KIST College of Management
Kamalpokhari, Kathmandu, Nepal
Pre-board Examination – 2015

Full Marks : 60
Time : 3 hrs

BIM/1st Semester/ENG 201: English Composition

Candidates are required to answer the questions in their own words as far as practicable.

Group 'A'

1. Brief Answer Questions:

[10×1=10]

a. Give two sentences to illustrate common core in English.

b. Change to informal English:

We are unfortunate to announce that Nepal is losing its established legacy and popularity among many international countries.

c. Underline the minor words class in the following:

Transitions signal to the reader the direction the writer is taking.

d. Give two examples to exemplify abstract frequency.

e. Give an instance where omitting 'for' be shown in a sentence.

f. Fill in the blanks with an appropriate word of 'do construction':

_____ Jane know the way to Durbarmarg?

g. Give one example to denote 'zero article'.

h. Distinguish syntactically the following pairs of sentences:

All crimes are avoidable.

All violence is avoidable.

i. Write one sentence that shows the verb referring to a state of being.

j. Write an example for neutral statement.

Group 'B'

2. Read the following passage for comprehension and answer the questions given below: [5×2=10]

Uploading is the process of transmitting information from your computer to a network (as opposed to downloading, where the information goes from the network to your computer). Friedman uses it as a symbol for how people can be creators of new information as well as consumers. Instead of people just downloading music or news, they are increasingly likely to contribute information: writing a review of a product they bought on Amazon.com, rating their professor at ratemyprofessor.com, or editing an encyclopedia entry on their favorite trivia topic on wikipedia.com.

Friedman discusses one area of uploading in depth: "Community-developed software." Typically, people think of software development as the result of the careful planning of small teams of experts who work for big companies like Microsoft. An alternative approach has emerged in which a community of amateur programmers works on a program collaboratively. These people work on the program as a hobby, usually with no expectation of financial reward. You might think that this approach would produce poor quality, but you would be wrong. *Apache*, the operating system used by almost all servers (the computers that store Internet content), was written this way. The one problem with community-developed software is service –whom do you call when your Apache server goes down? This problem has been resolved with a hybrid model in which the software is given away for free but reliable expert support is provided for a fee. Friedman believes this hybrid model will become increasingly important in the software industry.

Comprehension Questions

9. How does an individual become a creator of new information and consumer of it simultaneously?
10. Which approach of software development do you think best and why?
11. What is meant by hybrid model in connection to software development?
12. Give the meaning of the words 'amateur,' and 'collaboratively.'
13. Define software in your own words.

1 **Write an essay on "The Power of Information in Globalized Managerial Field".** [10]

2 **Give an example to demonstrate each of the following:** [5]

- 2.1 Zero article
- 2.2 Strengthened agreement
- 2.3 Tentative possibility
- 2.4 Cataphoric that
- 2.5 Ambiguity

3 **Change the following as instructed below.** [5]

- 3.1 The bold idea was dejected. **(Change the voice)**
- 3.2 Their daughter is rather dogmatic. **(Mark the genitive)**
- 3.3 He is characterized by what normally he has been doing.

(Identify the progressive marker)

3.4 Change the following words given in brackets appropriately. **(Change to <AmE>)**

Pedestrians use generally (side-walk).

3.5 We're going to enforce the library rules strictly. **(Change to <Impersonal Style>)**

4 **Separate the following sentences into Tone boundaries [units] showing the nucleus (underline it) and put Tones [/-Rising]; [^-Falling] or V-Fall-Rise].**

- 4.1 Will you be at around lunch time?
- 4.2 What question did Aashruti ask?
- 4.3 That will be difficult wouldn't it?
- 4.4 You'll speak to the manager today?
- 4.5 True, but grammar is quite easy.

5 **Give one example for each of the following:** [5]

- | | |
|--|------------------------------------|
| 5.1 Species noun | b. Finite clause |
| c. A sentence of present progressive passive | d. Non-standard in writing |
| e. The passive simple past | f. Suggestion speaker inclusive |
| g. Restrictive relative pronoun | h. Colloquialism |
| i. Backward pointing 'the' | j. Situational or outward pointing |

i. Write one example for each of the following: [5]

- | | |
|---------------------------------|---------------------------------------|
| a. A request for repetition | b. Demonstrative |
| c. Vocative | d. Signpost |
| e. A response to an apology | f. A good wish sent to a third person |
| g. Noun 1 + preposition + noun2 | h. Interrogative |
| i. Noun1 of noun 2 | j. Emphatic negation |

ii. Change the following as instructed below: [5]

2. As she was an only child, she had never seen baby without its outer wrappings.
(Restate with 'being' in an initial position)

3. We have chaos everywhere. **(Wh- and it-type cleft sentence)**
4. Describe a process that you like most using the following signals: **First of all, next, then, while, after that, finally in a sequence.**
5. A sentence on SVOO verbs with two objects structure
6. Philosophy is a healing medicine at the juncture of extreme difficulty in life. **(Postpone with 'introductory-it')**



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20

Full Marks: 40
Time: 2 hrs.

Pre-board Examination

BIM / First Semester / MTH 201: Basic Mathematics

Candidates are required to answer the question in their own words as far as practicable

Group – A

1. Brief Answer Questions:

[10 x 1 = 10]

- If $n(U) = 50$, $n(A) = 15$, $n(B) = 30$, $n(A \cap B) = 7$. Find $n(A - B)$ and $n(B - A)$.
- Rewrite using absolute value sign: $-5 \leq x \leq 8$.
- Write the polar form of a complex number -1.
- Find the limit of: $\lim_{x \rightarrow 1} \frac{x^2 - 1}{x - 1}$.
- Differentiate $(4x + 5)^5$ w.r.to $(x + 3)^2$.
- Integrate: $\int \frac{1}{5x + 2} dx$.
- Determine the order and degree of the following differential equation: $\left[1 + \left(\frac{dy}{dx}\right)^2\right]^{\frac{3}{2}} = \frac{d^2y}{dx^2}$.
- What values of x so that the vectors $3a + b - c$ and $2a + 3b - xc$ are orthogonal?
- Without expanding show that: $\begin{vmatrix} a & b+c & 1 \\ b & c+a & 1 \\ c & a+b & 1 \end{vmatrix} = 0$.
- When are two matrices said to be conformable for multiplication?

Group – B

Short Answer Questions:

[10 x 4 = 40]

- All the students of a college drink tea or coffee or both. If 72% drink tea and 48% drink coffee, what is the percentage of students drinking tea only and coffee only
 - Solve the inequality $|2x - 7| > 3$ and represent the solution set of real line.
- If $a + ib = \sqrt{\frac{1+i}{1-i}}$ then prove that $a^2 + b^2 = 1$.
 - Find the square root of the complex number $3 - 4i$.
- Solve the following linear differential equation: $x \frac{dy}{dx} - y = \log x$.
 - Find the image of the point (5, 2) under the half turn about the point (3, 4).
- Solve the following by using the properties of determinant: $\begin{vmatrix} a^2 + 1 & ab & ac \\ ab & b^2 + 1 & bc \\ ac & bc & c^2 + 1 \end{vmatrix} = 1 + a^2 + b^2 + c^2$
- Find $\frac{dy}{dx}$ of the following (any two):
 - $y = \log(x + \sqrt{x^2 + a})$
 - $x^3 + y^3 = 3axy$
 - $x^y = y^x$
- Integrate the following (any two):

a. $\int x^2 \log x dx$

b. $\int \frac{x+1}{\sqrt{x+3}} dx$

c. $\int e^{\sqrt{x}} dx$

8. A function $f(x)$ is defined as follows: $f(x) = \begin{cases} \frac{9x}{x+2} & \text{for } -1 < x < 1 \\ 3x & \text{for } 1 \leq x < 3 \\ \frac{x+3}{x} & \text{for } x \geq 3 \end{cases}$, examine continuity or discontinuity

at $x = 1$ and $x = 3$.

9. a) Determine the intervals in which the function $f(x) = x^3 - 9x^2 + 24x - 12$ is increasing or decreasing.
 b) The demand law for a commodity is $p = 20 - 2x - x^2$. Find the consumer's surplus when the demand is 3.
10. a) Prove that the following vectors: $a - 2b + 5c$, $a - 2b + 2c$ and $a - 2b + c$ are coplanar.
 b) Find the area of the triangle with adjacent sides given by the vectors: $a = 3i + 2j$ and $b = 2j - 4k$.
11. Solve by Cramer's rule: $\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4$, $\frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1$, $\frac{6}{x} + \frac{9}{y} + \frac{20}{z} = 2$.

Group – C

Comprehensive Answer Questions:

[1 x 10 = 10]

12. The cost function of a firm is given by $C(x) = 300x - 10x^2 + \frac{1}{3}x^3$, where x is output.

- Obtain the marginal cost function (MC) [1]
- Obtain the average cost function (AC) [1]
- Find output, at which marginal cost is minimum. [2.5]
- Find out, at which average cost is minimum. [2.5]
- Verify that $\frac{d(AC)}{dx} = \frac{1}{x}(MC - AC)$ [2]
- Also show that the stationary point of the average cost function, $MC = AC$. [1]



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2015

Full Marks: 60

Time: 3 hrs.

Pre - Board Examination

BIM/ First Semester/MGT 201: Principles of Management

Candidates are required to answer the question in their own words as far as practicable.

1. Brief Answers Questions:

Group 'A'

[10×1=10]

- i) State the functions of management.
- ii) Mention the steps involved in formulating plans.
- iii) State four qualities required for managerial leader.
- iv) What is Decentralization of Authority?
- v) What is tactical planning?
- vi) List three styles of leadership.
- vii) Write full form of PDCA.
- viii) What do you mean by management information system?
- ix) What do you mean by scalar chain?
- x) State communication network.

Group 'B'

Short answer question

[6×5=30]

1. What is communication? Explain the process of communication.
2. Define management. Describe managerial skills.
3. What do you understand by decision making? Describe the process involved in Decision making.
4. What is centralization? Explain advantages and disadvantages of it.
5. Give a critical appraisal of scientific management approach.
6. Describe quality and total quality management. Explain tools of total quality management.

Group 'C'

Comprehensive answer questions:

Nepal Academy (NA) is a Biratnagar based academic institution established as a private enterprise and registered under Company Act of Nepal in the year 2004. NA has twenty five members in it with an even capital investment of ten hundred thousand each. Among the investors Rakesh, Mukesh and Yogesh are assuming the responsibility of CEO, Financial Controller and Operation Manager respectively and also enjoying perquisites from NA in addition to the earnings of the enterprise. Rakesh and Mukesh are very popular as promoters in creating and transferring academic institutions with immense gain and their team is considered as pioneer in the field. Going back to their past records, it was found that both of them without alienation continued such endeavor for the last fifteen years and had set success stories numbering to seven institutions. Since their efforts had always paid they were also successful in keeping and rolling most of the investors in-tact.

Yogesh, the operation manager is assuming the responsibilities of operating intermediate level academic programs. The number of students at this level far exceeded with the number of students at bachelor and master levels. Though the mission set by NA is to build the institutions to the level of university, the way Yogesh is viewing it is as a profit center even in the short run. As a consequence the approach of Rakesh and Mukesh as compared to Yogesh revealed often contradictory in most of the issues related to NA operation. Rakesh and Mukesh emphasized on introducing different levels of academic programs with multifaceted demanding disciplines and considering the long term perspectives academic as well as financial soundness. Both of them are of the opinion that such views really enhance the image and finally the good health of the institution, financial hardships in the short run though. On the contrary, Yogesh usually stresses on intermediate level and in addition

running coaching classes heavily. He is of the opinion that the market share as well as the growth rate is high along with substantially low discipline problem. This is the argument always thrown in the board meeting by him. Yogesh was redundant enough to propose in the formal as well as informal meetings too to segregate the investors to programs as per their will when in minority. This attitude of Yogesh has culminated unhealthy formation of groups creating uncongenial environment at NA.

Rakesh and Mukesh on the other hand are of the opinion that issues raised by Yogesh are of trivial matter which should not at all disturb the very mission of the institution. They have started initiating major decisions and getting approval from the board afterwards. On different occasions, both Rakesh and Mukesh have filtered their expressions which stated that any member not interested with the way the institutions is heading may quit with their investments based on the assessment of present status of NA.

Vocal attitude of this sort of all the three active members led the institutions to a state of confusion and more towards uncertainty. Communication breakdown is common. Operation level and board meetings are rare. Misunderstanding mounted and the compliance of common principles and functions of management faded away. Violation of authority and responsibility are rampant. Due to all these, NA is facing acute problems.

The persisting situations flair up amongst other members of NA and sixty five percent of the shareholders has already lodged application to the chair person of the board highlighting the problems. It is likely that there will be special general meeting in the near future. This way it seems apparent that the fate of the institution and the members associated to it is in serious danger.

Questions:

- 6 What is your assessment about the conditions of NA from the general management perspective?
- 7 Explain the strengths and weakness of NA and also describe the possibility of correcting misunderstanding amongst the three major active organizational participants.
- 8 What do you think as the major factors contributing to uncongenial environment at NA putting the institution fate in serious danger? What rescue measures do you suggest to deal with the situation and save the institution.
- 9 What would be your advice to Rakesh, Mukesh and Yogesh in the given situation of NA?



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Kamalpokhari, Kathmandu

2014

Full Marks: 60

Time: 3 hrs.

Pre - Board Examination [Set - B]

BIM/ First Semester/MGT 201: Principles of

Candidates are required to answer the question in their own words as far as practicable.

1. Brief Answers Questions:

[10×1=10]

- i) State the level of management.
- ii) Mention the steps involved in decision making.
- iii) State four personal qualities required for managerial leader.
- iv) What is centralization of Authority?
- v) What is corporate planning?
- vi) List three principle of TQM.
- vii) write full form of SQC.
- viii) What do you mean by supply chain management?
- ix) what do you mean by span of control?
- x) State organization architecture.

Group 'B'

Short answer question

[6×5=30]

1. what do you mean by leader? Explain managerial qualities of a leader.
2. Define management. Describe managerial roles.
3. What do you understand by planning? Describe the process involved in Planning.
4. What is decentralization? Explain advantages and disadvantages of it.
5. Give a critical appraisal of administrative management approach.
6. What do you mean by controlling? Explain process and types of control.

Group 'C'

Comprehensive answer questions:

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The persisting situations flair up amongst other members of NA and sixty five percent of the shareholders has already lodged application to the chair person of the board highlighting the problems. It is likely that there will be special general meeting in the near future. This way it seems apparent that the fate of the institution and the members associated to it is in serious danger.

Questions:

7. What is your assessment about the conditions of NA from the general management perspective?
8. Explain the strengths and weakness of NA and also describe the possibility of correcting misunderstanding amongst the three major active organizational participants.
9. What do you think as the major factors contributing to uncongenial environment at NA putting the institution fate in serious danger? What rescue measures do you suggest to deal with the situation and save the institution.
10. What would be your advice to Rakesh, Mukesh and Yogesh in the given situation of NA?