National College of Computer Studies
(NCCS-College of IT & Management)

Set A

Final Examination (2015)

Full Marks: 60
Pass Marks: 30
Time: 3 Hours

BIM/First Semester/ MTH 201: Basic Mathematics ***Candidates are required to answer the questions in their own words as far as practicable.***

Group 'A'

1. Brief Answers Questions: **[10×1=10]**

a) Find the image of point P(4,-2) under reflection in the line y = - x.

b) If 5x + (3x – y)i = 10 + 2i then find value of x and y.

c) If $|3x - 1| > 5$, what are the possible real values of x?

d) Find the domain and range of the real valued function defined by $f(x) = \sqrt{4 - x^2}$

e) For any two non empty finite set what will happen if A-B = B-A?

f) Show that $\int_0^n (nx)^{(1-n)/n} dx = n^{2/n}$

g) Decide whether the relation $y^2 = 2x-1$ is a function or not?

h) Find general solution of dy = ydx

i) If vector (m, 2, 4) and (-3, m, 2) are orthogonal then find the value of m.

j) $\lim_{x \to 2} \frac{x^n - 2^n}{x-2} = 80$, if n is positive integer, find n.

Group 'B' **[10×4=40]**

Short answer questions:

2. a. Find square root of $\frac{4+7i}{2-3i}$

b. Solve using Demoiver's theorem: $z^3 - 1 = 0$

3. a. Find general solution to $xy\frac{dy}{dx} = \frac{(1+x)^2}{1+y}$

b. Form differential equation of $y = ae^x + be^{-x}$

4. Find derivative of the given function using first principle

a. $y = \frac{1}{\sqrt{x}}$

b. y = logx

5. Integrate following

a. $\int \frac{1}{x + \log x} dx$

b. $\int x^2 e^{x^3} dx$

6. **a**. If demand and supply function of a certain product is p = 8 – 2q and p = 2q under pure competition. Find

consumer and producer's surplus.

b. A spherical balloon is inflated such that its radius is increasing at the rate of 5 cm per sec. Find the rate at which its volume is increasing when its radius is 14 cm.

7. **a.** In an examination of T.U. 55% failed in English, 35% failed in Accounts and 30% failed in Economics, 16% failed in English and Economies, 10% failed in Economies and Account, 15% failed in English and Account and 7% failed in all three.

Find **i.** The pass percentage in all subjects

ii. The fail percentage in one subject.

iii. The fail percentage in exactly two subjects.

b. Solve the following inequalities $|x-3| \geq 0$. *Also represent graphically*.

8. **a.** Prove using the properties of determinant

$$\begin{vmatrix} 1 & a & a^3 \\ 1 & b & b^3 \\ 1 & c & c^3 \end{vmatrix} = (a+b+c)(a-b)(b-c)(c-a)$$

b. Kapil and Rajendra are two share brokers. Kapil sells 30 shares of A and buys 45 shares of B. thus decreasing his cash by Rs. 1500. Rajendra buys 40 shares of A and sells 60 shares of B thus increasing this cash by Rs. 2000. Find the prices of each type of share using matrix method.

9. **a.** Find area formed by x- axis line x = 1 and curve $y^2 = 4x$.

b. limit $\lim_{x \to \infty} \sqrt{x}\,(\sqrt{x+a} - \sqrt{x})$

10. **a**. Test the continuity of the function $f(x) = \begin{cases} 2x+1, & x < 3 \\ 3x-2 & x > 3 \\ 7 & x = 3 \end{cases}$ *at* $x = 3$.

b. If $f(x) = \frac{1+x}{1-x}$ prove that $f(x) + f\left(\frac{1}{x}\right) = 0$

11. **a**. Show that points with position vectors (1,2,4) , (2,5,-1) and (3,8,6) are collinear.

b. Examine that following set of vectors is linearly independent?

$\vec{u}$ = (1,-2,1) $\vec{v}$ = (2,1,-1) and $\vec{w}$ = (7,-4,1)

Group 'C'

Comprehensive answer questions: **[1×10=10]**

12. The research department of manufacturer company presents the price - demand equation P = 30- 4x for certain product, where P is the unit price x is the quantity demanded in units. The financial department provides the cost function C(x) = 8x +180.

a. Find the domain and range of the function defined by the price - demand equation.

b. Find the marginal revenue at x = 9

c. Find the best production level of products to produce maximum profit by using application of derivatives. Find the maximum profit.

d. What is the price per product that produces the maximum profit?

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National College of Computer Studies

(NCCS-College of IT & Management)

Set B

Final Examination (2015)

Full Marks: 60
Pass Marks: 30
Time: 3 Hours

BIM/First Semester/ MTH 201: Basic Mathematics ***Candidates are required to answer the questions in their own words as far as practicable.***

Group 'A'

1. Brief Answers Questions: **[10×1=10]**

a) Find the image of point P(4,-2) under reflection in the line y = 0.

b) Find real numbers x and y which satisfy the equation $3 - 4i = (x + iy)^2$, where $i = \sqrt{-1}$

c) Rewrite the absolute value sign of -2< x < 5.

d) Find Domain R range of function y = $\frac{1}{x+2}$

e) Evaluate : $\int_0^1 2^x$ dx

f) For any two non-empty finite sets A and B, what will happen if $A \cap B = A \cup B$?

g) Decide whether the relation $y^2 = 2x - 1$ is a function or not?

h) Find the critical point of the function f (x) = $x^3 + 3x^2 + 3x$

i) Find the polar form of -1 - i.

j) Show that the relation y = c e^x is the general solution of the differential equation: $\frac{dy}{dx} = y$.

Group 'B'

[10×4=40]

Short answer questions:

2. Evaluate,

a. $\int \frac{(x+1)(x+\log x)^2}{2x}$ dx

b. $\int \log x \, dx$

3. **a.** Show that the vectors (1, -2, 3) , (2 , 3 , -4) and (0 , -7 , 10) are collinear.

b. show that following vectors are linearly dependent:

$\vec{a}+\vec{b}-2\vec{c}$, $3\vec{a}-2\vec{b}+4\vec{c}$, $3\vec{a}-7\vec{b}+14\vec{c}$

4. **a.** Find the area bounded by the x-axis, the curve $y^2 = 4a(x-a)$ and the ordinate at the point (h,k).

b. The annual rate of repair of a machine is given by $\frac{dc}{dt} = 5t + 12.5$ where t is the time of the machine in the year and $\frac{dc}{dt}$ in Rs. per year.

i) Find the total repair cost in 4 years

ii) How many years are necessary for the cumulative cost to be Rs. 125?

5. **a**. Find cube roots of -1.

b. If $^{a}+ ib = \frac{x+iy}{x-iy}$ then find value of $a^2 + b^2$

6. Find derivative of

a. $\frac{1}{\sqrt{x-a}+\sqrt{x-b}}$

b. $x^2 + y^2 = xy$

7. In a group of 48 students , 18 read marketing, 22 read statistics and 16 read economics, 6 reads marketing only, 9 reads statistics only, 5 reads marketing and statistics only, 5 read statistics and economics only. Find how many students read,

a. all the subjects

b. marketing and economics only.

c. economics only

8. **a.** Prove using the properties of determinant

$$\begin{vmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{vmatrix} = (a+b+c)^3$$

b. Cost of 2 kg of rice 3 kg of pulse and 4 kg of sugar is Rs 900. Cost of 3 kg of rice 2 kg of pulse and 5 kg of sugar is Rs 1000.Cost of one kg of sugar, 2 kg of pulse and 3kg of rice is Rs 600. Use matrix inverse method to find price per unit of three commodities.

9. **a**. A function f(x) is defined by $f(x) = \begin{cases} 3x+2 & for\ -2 \le x < 0 \\ 2-5x & for\ 0 \le x < 2 \\ 5-2x & for\ x \ge 2 \end{cases}$

Find $\lim_{x \to 2} f(x)$ f exists. Hence discuss its continuity at x=2

b. If the marginal revenue function for output x is given by MR(x) = $\frac{6}{(x+2)^2}+5$, find the average revenue when output is 10.

10. Find the general solution of differential equation $x\frac{dy}{dx} + y = x^2$ when $y(3) = 0$.

11. **a**. Water is being pumped into a canonical reservoir of height 15 m at the rate of 3 m^3/ minute. How fast does

the water level rise from a depth of 2.5 m?

b. Find, from the first principle the derivative of $\sqrt{ax+b}$

Group 'C'

Comprehensive answer questions: **[1×10=10]**

12. A manufacturer incurs the following costs in producing x bulbs in one day for $0 < x < 200$: fixed costs Rs.320, production cost Rs.20 per bulb, equipment maintenance and repairs cost, $0.05x^2$ rupees.

a. What is the total cost of manufacturing x bulbs in one day?

b. What is the average cost (AC) per bulb if x bulbs are produced in one day?

c. Find the marginal cost (MC) and the critical values for the average cost.

d. Find the intervals where the AC per bulb is decreasing the intervals where he AC per bulb is increasing, and the local extrema of the AC.

e. Verify the following relationship between the average cost (AC) curve and the marginal cost (MC) curve numerically.

i. AC > MC on the interval where the AC per bulb is decreasing.

ii. AC < MC on the interval where the AC per bulb is increasing.

iii. AC = MC at the critical point for AC.

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National College of Computer Studies
(NCCS-College of IT & Management)

Set A

Final Examination (2015)

Full Marks: 40
Pass Marks: 20
Time: 2 hours

BIM/First Semester/ IT 211: Computer Information System ***Candidates are required to answer the questions in their own words as far as practicable.***

Group "A"

1. Brief Answer Questions **[15×1=15]**

1. What are the types of mouse?
2. What are the factors that the image quality depends on?
3. Classify computer on the basis of brand.
4. Differentiate SMTP and POP3?
5. List any four limitations of a computer.
6. What is Convergence?
7. Define WWW.
8. What are the three basic operations used in programming?
9. Define topology.
10. What is the advantage of compiler over interpreter?
11. Define ciphertext.
12. Define data encapsulation.
13. What are the uses of Data Warehouse?
14. Define shareware.
15. What is Genetic Algorithm?

Group "B"

Short Answer Questions **[5×3=15]**

13. Explain the analysis phase of SDLC.

14. Define Expert system and their components.

15. Differentiate between Static and Dynamic Web pages with examples.

16. Write short notes on Client server architecture.

17. Compare and Contrast structural vs. Object oriented programming language.

Group "C"

Long Answer Questions **[2×5=10]**

1. Write an algorithm and flowchart to test whether the given number is odd or even.
2. What are encryption and decryption? Explain with complete process.

National College of Computer Studies
(NCCS-College of IT & Management)

Set B

Final Examination (2015)

Full Marks: 40
Pass Marks: 20
Time: 2 hours

BIM/First Semester/ IT 211: Computer Information System

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

Group "A"

20 **Brief Answer Questions**

[15×1=15]

a. Define file processing with types.
b. What is URL? Give one example.
c. What is seek time?
d. What is the main reason behind to twist the cable in the twisted pair?
e. Define Artificial Intelligence
f. What is device driver?
g. What is cryptography?
h. List the factors determining quality of printer.
i. Why is networking of computers required?
j. What is data mining?
k. What is artificial neural network?
l. What is auxiliary memory?
m. What is foreign key?
n. List the steps involved in SDLC.
o. Which type of software's are Disk defragmenters and Antivirus and why?

Group "B"

Short Answer Questions **[5×3=15]**

1. Explain the application areas of the AI.
2. Differentiate system software vs Application software.
3. Write short notes on Microwave system.
4. Define programming language and its type.
5. Write short notes on system implementation phase.

Group "C"

Long Answer Questions **[2×5=10]**

a. Write an algorithm and flowchart to find greater number among three numbers.

b. What are encryption and decryption? Explain with complete process.

National College of Computer Studies
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Set A

Full Marks: 40
Pass Marks: 20
Time: 2 Hours

Final Examination (2015)

BIM/First Semester/ IT 212: Digital Logic Design ***Candidates are required to answer the questions in their own words as far as practicable.***

Group 'A'

Brief Answer Questions:

[10×1=10]

6. Convert $(1101101)_2$ to Octal Number.
7. Write two differences between analog and digital signal.
8. Why K-Map is better than Boolean algebra?
9. How many flip flops are required to generate a 1 Hz pulse from 64 Hz pulse?
10. Simplify: A'B'C'+ABC'+BC using Boolean algebra.
11. Draw a figure of FPGA?
12. How many inverters are required to convert 11001110 into 2's complement?
13. What is the difference between ring and Johnson counter?
14. Why PLA is better than PAL.
15. Write the characteristic of TTL circuit.

Group 'B'

Short Answer Questions: **[5×4=20]**

1. **a.** If A=25and B=45, Represent them in Binary and perform -B-A. (Use 2's complement)
   b. Explain memory cycle. Explain the use of data register and address register.
2. Write two differences between Combinational Circuit and Sequential Circuit. Explain the operation of J_K Flip-Flop along with its characteristic table and characteristic equation.
3. What do you mean by a decoder? Design the simplest logic circuit for the "d" segment of the BCD-to-7 segment decoder.
4. Draw the required block diagrams and timing diagram for loading the data 110 and right shifting the data for that PISO shift register.
5. Design an asynchronous mode 88 counter.

Group 'C'

Long Answer Questions: **[2×5=10]**

6. Minimize the given expression using k-map and draw the logic diagram using minimum numbers of NAND gate only.

   (A+B+C) * (B+C'+D) * (A+B') * (A+B'+D)*(A+B+C+D) * (A'+B'+C'+D')

17. Design a synchronous sequential circuit using SR flip flop with one input X and an output Y. The input X is a serial message and the system reads X one bit at a time. The output Y=1 whenever the pattern 010 is encountered in the serial message.

For example:

if input : 0101011101

then output :1101011111

Group “A”

1. Brief Answer Questions:

[10×1=10]

a) Give two examples of Spoken English.

b) Write two sentences to illustrate <AmE>.

c) Write two sentences using ‘carrot’ as a count noun and a mass noun.

d) Write two sentences to show Forward Pointing and Backward Pointing.

e) Give the Group nouns for stars and sailors.

f) Put the Tag Question for the following sentence, if it has a sarcastic tone:

‘So you call that hard work, ____ _____?’

g) Give one example to show Negative condition.

h) Put the stress symbols for the following sentence: ‘They ran over the cat’.

i) Write the interjections to express Satisfaction and Pain.

j) Give two examples to express the emphatic ‘so’ and ‘such’.

Group “B”

2. Read the following passage and answer the questions given below:

[5×2=10]

Dawn with yoga seems to be a household punch line these days. All thanks to Swami Ram Dev’s yoga sessions on Aastha channel every morning. With the mission of extending the basic mantra of yoga to each and every person, Ram Dev’s Patanjali Yogpeeth was established on the holy banks of Ganga in Haridwar. Patanjali Yogpeeth heals its patients through yoga and ayurveda. Set up in an area of 35 acres of land, the ashram has a large OPD that can house around 6000 to 10000 patients, and IPD of 500 beds, and a dental clinic vested with the latest dental equipment, which is the first of its type to adopt yogic and ayurvedic methodology for treatment. Also, it has a team of 200 doctors attending to over 2500 patients daily, giving nerves to even some of the best corporate hospitals.

IT-a constitutional part of Patanjali

Attending to over 2500 patients daily was not an easy task for the Yogpeeth. The complexity of running the hospital, dealing with an increasing number of patients and keeping patient and treatment records were posing to be a big challenge to the hospital. The line-ups were so long that many patients had to return untreated. On top of this, with service centers and yoga teachers of Patanjali spread in every nook and corner of the country, it was difficult to file and track their details related to work and area under contribution.

Patanjali took the help of IT to offer better services to the patients. With Hospital Management System (HMS) and Human resource Management System (HRMS) in place, data is now collated at a single place. Follow-up of patients is easy as they just need to quote their ID and all details of patient treatment and history would be available online. The entire IT infrastructure of Patanjali is based on fibre optic cables that can meet all seven blocks, providing 2 Mbps data transfer speed. Scientists at the ashram are working to study the effects of yoga on the body. To monitor the effects on the body, the doctors have some interesting tools in place. For instance, polygraphs, the lie detectors used mainly for interrogating people involved in crime, serves as a very useful tool in the hands of the doctors. “There is a 16 channel polygraph which can simultaneously record variables such as the heart rate variability, cardiac output, the blood pressure non-invasively, muscle strength, blink rate (especially interesting as computer vision syndrome often results from a low blink rate), a metabolic analyzer which evaluates oxygen consumed and lung functions. We also assess the nerve conduction velocity and muscle tension,” says Dr. Shirley Telles, chief Research Consultant, department of yoga. “We use computerized windows based programs for the test to measure the amount of oxygen consumed and carbon dioxide eliminated (particularly important as the emphasis is on breathing practices_ pranayama).”

a) What was unique about Patanjali’s treatment?

b) How did the help of IT improve Patanjali?

c) What is a polygraph? How does it help doctors?

d) Give the meaning of pranayama.

e) Give a suitable title for the passage.

3. Write an essay on ‘The Mis-use of IT and Cyber crimes’. [10]

4. Answer according to instructions given in brackets: [5]

a) As John felt hungry, he went home. (Change to Formal)

b) I have not read the book yet. (Change to Spoken English)

c) Pete’s old woman hit the roof when he came home with the doll from the disco. (Change to common core)

d) Peter’s father has died. (Make it more tactful)

e) Peter’s father has died. (Change to Very Familiar Style)

5. Divide the following into Tone Units and show the Tone symbols for Falling/Rising/Fall-Rise Tones: [5]

a) The man told us we could park at the street over there.

b) Mary, when will you finish your exams?

c) The blue whale, which is hunted for its blubber, is becoming extinct.

d) Here's a cup of tea for you.

e) Please, hurry up.

6. Give one example each for the following:

[5]

a) Present State b) Present Event c)Present Habit d) Role e) Standard

7. Give one example for the following:

[5]

a) Affirmation b) Denial c) Echo Question d) Question with more than one Wh-word e) Negative Question

8. Give one example for the following:

[5]

a) Greeting b) Congratulation c) Toast d) Condolence e) Volition (any example)

9. Change the following into Participle and Verbless Clauses:

[5]

a) As he is a farmer, he has to get up early.

b) After it is cleared, the site will be very valuable.

c) Though she was defeated, she remained a popular leader.

d) As he was a man of few words, Uncle George did not give any comment.

e) Whether he is right or wrong, he usually wins the argument.

Group "A"

1. Brief Answer Questions:

[10×1=10]

a) Give the Group Nouns for Ships and Sheep.

b) Write an example of Ellipsis in Spoken English.

c) Change to Familiar style: "Would you please shut the door?"

d) Put the Stress symbols on the stressed words in the following: "I rang you on the way to the airport".

e) Give the difference in meaning in the following sentences:

Crime necessarily doesn't pay.

Crime doesn't necessarily pay.

f) Give the Emphatic Negation or write a Negative Intensifier for the following:

"He didn't give me _____ _____."

g) Write an Exclamatory Question for the following:

"She has grown very very much."

h) Write an example for Making a New Start in a Linking Signal.

i) Write a Condolence message in two lines for a person who has passed away.

j) Write an example for End-Focus.

Group “B”

2. Read the following passage and answer the questions given below:

[5×2=10]

Dawn with yoga seems to be a household punch line these days. All thanks to Swami Ram Dev’s yoga sessions on Aastha channel every morning. With the mission of extending the basic mantra of yoga to each and every person, Ram Dev’s Patanjali Yogpeeth was established on the holy banks of Ganga in Haridwar. Patanjali Yogpeeth heals its patients through yoga and ayurveda. Set up in an area of 35 acres of land, the ashram has a large OPD that can house around 6000 to 10000 patients, and IPD of 500 beds, and a dental clinic vested with the latest dental equipment, which is the first of its type to adopt yogic and ayurvedic methodology for treatment. Also, it has a team of 200 doctors attending to over 2500 patients daily, giving nerves to even some of the best corporate hospitals.

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a) What was unique about Patanjali’s treatment?

b) How did the help of IT improve Patanjali?

c) What is a polygraph? How does it help doctors?

d) Give the meaning of pranayama.

e) Give a suitable title for the passage.

3. Write an essay on “The advantages of IT”.

[10]

4. Write a short paragraph on “The Computer Virus”.

[5]

5. Change according to instructions given in brackets:

[5]

a) My car is different than yours. (Change to BrE)

b) Feeling hungry, he went home. (Change to Common Core)

c) I won’t tell him. (Change to a Written style)

d) It is no wonder that boys are attracted to girls. (Change to a Rhetorical Question)

e) The police will look into the murder case. (Change to a Formal language)

6. Put the Falling/Rising/Fall-Rise Tone symbols in the following:

[5]

a) Who is that girl?

b) He said he was sorry.

c) People who work in offices should do some exercise.

d) Well, what are your plans?

e) Do hurry up!

7. Give examples for the following:

[5]

a) Unit Noun b) Mass noun c)Manner d) Means e) Instrument

8. Illustrate the following with suitable examples:

[5]

a) Tactful Disagreement b) Denial combined with Agreement

c) Neutral Volition in terms of WISH d) Warning e) Threat

9. Change to it-type or wh-type Cleft sentences:

[5]

a) He is a genius.

b) We need more time.

c) He’s spoilt the whole thing.

d) The ambassador met us.

e) I first met my wife in Istanbul.

National College of Computer Studies

(NCCS-College of IT & Management)

Final Examination (2015)

Set B

BIM/First Semester/ IT 212: Digital Logic Design

Full Marks: 40
Pass Marks: 20
Time: 2 Hours

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

Group 'A'

Brief Answer Questions:

[10×1=10]

2) Convert $(50.67)_8$ to Hexadecimal.

3) What are the techniques to convert analog signal to digital signal?

4) How many flip flops are required to generate a 2 Hz pulse from 64 Hz pulse?

5) Why PLA is better than ROM?

6) A memory device has 6000 bits with each memory location arranged in 16 bits. How many address lines are required to address each memory location distinctly?

7) Write the characteristic of CMOS circuit?

8) LED & LCD, Which one is better and why?

9) What do you mean by propagation delay?

10) How many outputs are there in Multiplexer with 6 select lines?

11) Draw the figure of Johnson Counter.

Group 'B'

Short Answer Questions: **[5×4=20]**

3. **a.** If A = 60 and B = -20, then calculate B-A using 2's Complement concept.

b. Explain memory cycle. Explain the use of data register and address register.

4. A multiplexer has 99 inputs. How many select lines are required? Construct 8 to 1 Multiplexer using 4 to 1 Multiplexers.

5. **a)** What are the differences between combinational and sequential circuits? Design the simplest logic circuit for the "E" segment of the BCD-to-7 segment decoder..

6. What is a Serial in Serial out Register? Draw the required block diagrams and timing diagram for loading the data 011 and right shifting the data for that PISO.

7. What do you understand about Synchronous Sequential Counter? Design an asynchronous mode 10 counter with neat timing diagram.

Group 'C'

Long Answer Questions: **[2×5=10]**

8. Minimize the given expression using k-map and draw the logic diagram using NOR gate only

F= **(A+B) * (A+C'+B)*(B+C') * (A+B'+C')**

9. **a.** Draw the circuit diagram of a Digital Clock.

b. You are provided with a sequence 011, at the end of this sequence, the output of the Sequential Machine

should be at logic 1. Draw the State Diagram and State Table for your machine.

National College of Computer Studies

(NCCS-College of IT & Management)

Set A

Final Examination (2015)

BIM/First Semester/ MGT 201: Principles of Management

Full Marks: 60
Pass Marks: 30
Time: 3 Hours

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

Group A

Brief answer questions: **[1×10=10]**

12) Explain system theory of management.
13) What do you understand by follower of this present organizational environment?
14) What do you understand by responsibility?
15) Explain management information system.
16) What are the advantages of group decisions?
17) Define oral method of communication.
18) Initiative" is one of the qualities of manager. “Explain".
19) What are the limitations of scientific theory of management?
20) Explain various levels of plan.
21) Define the meaning of coordination.

Group B

Short answer questions: **[5×6=30]**

22) Explain bureaucratic management theory with its contributions.
23) Which one leadership you prefer the most? Autocratic or democratic; Justify your answer.
24) Due to so many reasons employee in the organization does not prefer to change. Explain.
25) Describe the meaning of quality. What are the emerging issues in quality management?
26) Define planning. How can you justify that planning plays a vital role in development of any organization?
27) Being a manager, s/he needs to possess so many qualities. Explain.

Group C

Comprehensive answer questions:

28) Read the following case carefully and answer the questions that follow: **[5×4=20]**

Henry Ford and twelve investor began the Ford motor companies in Dearborn, Michigan in 1903. The first car, the model A, was first, well builds, and sold well. When demand for the model T outstripped supply, Ford tried a new way of making the cars to speed up production and hold down cost. He succeeded, and mass production was born.

Ford had about half of the world market and more than half of the domestic market for automobiles by the early 1920s. But soon General Motors Corp. and Cnrysler Corp. were outselling ford and other companies

entered the market too. To counter their impact, Henry Ford II brought in a group of systems analysts that included Robert S. McNamara (latter president of Ford and secretary of defense), Charles B. Thornton

(latter founder of Litton Industries), and Arjay Miller (latter president of ford and Dean of the Stanford Business School). That turnaround slowed by the late 1970s, and by the 1980s Ford was losing market share and money.

Ford set out to change its corporate culture. It changed its bonus and incentives systems so that quality and interpersonal skills were valued as much as more typical quantitative achievement. Groups got involved in planning, including workers, salespeople, and customers. Executives were also told that everyone with a legitimate interest decision should be explained to those groups and individuals.

Ford's changed organization was so successful that in 1986 it was able to produce the bestselling car on the market, The Taurus. However, Ford still had to use factory closings and other cost cutting tactics to keep cost down. But by the early 1990s it had become No. 1 in truck sales, No 2 in car sales and No 3 in Tractors. It introduced a "world car" in 1993 in Europe and the US version, the Contour, a year later. Also in 1993 Ford installed a new material control system that linked more than 50 plants to reduce cost associated with materials.

In 1994 Ford announced it must ambitious organizational effort yet. Perhaps stemming from its world care experience, Ford announced that it was going to create a global corporation. The intent of the ford 2000 plan was to combine its US and European operations into a single massive global organization as of January 1st 1995. The plan called for other international operations to be gradually absorbed into this huge business. The focus is still be somewhat different in different areas- the Europeans will design the small cars because they sell better i9n Europe, where as the Americans will handle the large cars- but everyone will clearly be part of the same organization. The small cars will also be sold in the United States and the large one in Europe. The plan is to change the organization so that the same systems and processes can be used around the world.

Engineering a product only once would save the company lots of money. Those savings, in turn could be used to develop new products for emerging market in China, India and Southeast Asia. Because of variety of cars can be built using the same assembled platform, having only a few platforms around the world would not necessarily limit the models of cars that Ford could offer to its customers. Some critics, however, believe that trying to run a single organization with parts five hours apart and with very different culture will be virtually impossible.

Question.

10. How easy has it been for Ford to change its organization Design? Think about determinants, components and consequences.

11. What are the advantages and disadvantages of the organization that ford inaugurated in the 1980s? Did it fit the environment? Why or why not?

12. What are advantages and disadvantages of the organization that Ford announced in 1994?

13. Which structure of Departmentation would be appropriate?

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National College of Computer Studies

(NCCS-College of IT & Management)

Set B

Final Examination (2015)

BIM/First Semester/ MGT 201: Principles of Management

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

Full Marks: 60
Pass Marks: 30
Time: 3 Hours

Group A

Brief answer questions: **[1×10=10]**

c. Explain the various types of leadership.

d. Why motivation plays vital role in every organization?

e. Differentiate vertical architecture with horizontal.

f. Describe the meaning of Total Quality Management.

g. Explain positive and negative motivation.

h. What do you understand by planning premises?

i. What do you understand by six sigma?

j. Explain group decision vs. individual decision.

k. Describe decision theory of management.

l. List the process of planning.

Group B

Short answer questions: **[5×6=30]**

7. Explain administrative management theory with its contributions.

8. Explain the contributions made by Abraham Maslow in development of behavior science approach.

9. Explain the process which enables the flow of communication.

10. Organizing possess various principles. Explain them.

11. Explain various qualities a leader need to possess.

12. Describe multidivisional structure of organization. What are its advantages?

Group C

Comprehensive answer questions:

13. Read the following case carefully and answer the questions that follow: **[5×4=20]**

Hari Sharma, who completed MBA from UK with specialization in Strategic Management join his father's (Mr. Harish) business. As a father Harish was quite delighted because his son has recently joined the organization. He asked his son to prepare a report regarding the current status of the organization and the key areas to be focused. Hari prepared the report and organized seminar where the representative of employee, consultant, expert, and media person, were invited.

Mr. Hari starts presentation; everyone was impressed by his presentation style. However, the actual result disappoints few employees because there performance was not good. Tension starts increasing when he came to conclusion part, the performance of subordinates were par excellence with compare seniors.

Besides this, he also raises few other issues regarding strategic management. Research done by Mr. Hari shows that turnover of this organization was increasing because of ineffective reward system. Salary, provided by this organization was bit less than their competitors. He also provided recommendation to improve quality of work life as soon as possible to reduce pollution and condition of few machines was not good enough. He also mention name of few employee who were violating disciplinary rule. Since, few employees who were not the family members listen presentation very carefully. Very soon almost all employees came to know about this entire problem. All employees interpret problem in their own way. Few starts demanding that senior employee whose performance was below standard must gave resignation and one of the qualified subordinates must be promoted. While few others talk about changing machine and reducing pollution since they were quite concerned about their health. Many employee starts demanding to increase in salary and revise in reward system since they knew that they are under paid.

Mr. Hari who came to know about all problems realized that although his research oriented report as well as presentation was good enough but he disclose all his weakness in-front outsiders. To handle the situation he called the meeting with employee and told them that he will send all employees to training or development whose performance was below standard. He also promises to revise salary, reward system, and working condition very soon. To solve the problem he asks bit time with employee. However, employee did not agree to wait since there were qualified employees (but not family members). A negotiation fails and problem starts getting bigger and bigger.

Questions:

2. Discuss the major problems of this organization.
3. Explain the strength and weakness of the organization.
4. What suggestion will you give to improve working condition of the organization? Explain.
5. What will be your immediate step to improve the current burning problems of this organization?

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