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First Semester M.B.A. (Full Time/UIM/Travel and Tourism/Regular  
(Evening)) Degree Examination, November 2019

**MGT 104 : ACCOUNTING FOR MANAGERS**

**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART – A**

Answer **all** the questions. Each question carries **5** marks.

1. Distinguish between management accounting and financial accounting?
2. Explain the need and significance of depreciation? What are the factors should be considered for determining amount of depreciation?
3. Enumerate various requisites for installation of management accounting system?
4. What do you mean by fund from operations? What are the different approaches of computation of fund from operation?
5. Distinguish between IFRS and IAS.

**(5 × 5 = 25 Marks)**

**PART – B**

Write in detail on **any three** questions. Each question carries **10** marks.

6. What is GAAP? Explain its meaning and significance in accounting?

P.T.O.





From the following trial balance and additional information, you are required to prepare final accounts?

Particular	Dr.	Cr.
Capital	-	20,000
Debtors	5,400	
Drawings	1,800	
Machinery	7,000	
Creditors	-	2,800
Wages	10,000	
Purchases	19,000	
Opening stock	4,000	
Bank balance	3,000	
Carriage charges	300	
Salaries	400	
Rent and taxes	900	
Sales	-	29,000
	<u>51,800</u>	<u>51,800</u>

Additional Information:

- (a) Closing Stock Rs. 1200,
- (b) Outstanding rent and taxes Rs. 100.
- (c) Charge depreciation on machinery at 10%.
- (d) Wages prepaid Rs. 400.





From the following information obtained from the books of Explorer Ltd., prepare the Comparative Income Statement and Comparative Balance sheet?

Income Statement for the years ended on 31 December 2009.

Particulars	2008 (Rs.)	2009 (Rs.)
Net sales	4,00,000	5,00,000
Opening stock of goods	60,000	70,000
Closing stock of goods	50,000	40,000
Purchases for the year	1,90,000	2,10,000
Direct wages	60,000	70,000
Factory expenses	20,000	30,000
Office and administration expenses	25,000	35,000
Selling and distribution expenses	35,000	25,000
Interest on debentures	10,000	20,000
Income tax	24,000	32,000

Balance sheet as on 31<sup>st</sup> December 2008 and 31<sup>st</sup> December 2009.

Liabilities	31.12.08	31.12.09	Assets	31.12.08	31.12.09
Share capital (Rs. 100 each)	2,00,000	3,00,000	Fixed assets	2,80,000	4,50,000
Preference share capital	1,00,000	2,00,000	Investment	1,00,000	1,80,000
Reserves and surplus	1,60,000	2,20,000	Stock	70,000	1,20,000
Debentures	80,000	1,30,000	Debtors	80,000	1,00,000
Creditors	50,000	40,000	Cash and bank	50,000	40,000
Bills payable	10,000	10,000	Preliminary expenses	20,000	10,000
Total	<u>6,00,000</u>	<u>9,00,000</u>	Total	<u>6,00,000</u>	<u>9,00,000</u>





9. Following were the balance sheet of Labanyalatha Ltd. as on 31<sup>st</sup> December 2008 and 31<sup>st</sup> December 2009.

Liabilities	2008	2009	Assets	2008	2009
Equity share capital	40,000	49,000	Good will	3,000	4,000
Profit and loss a/c	2,000	14,000	Plant and machinery	40,000	62,000
General reserve	8,000	17,000	Investment	20,000	30,000
10% debentures	10,000	20,000	Stock	25,000	28,000
Creditors	43,000	40,000	Cash and bank	20,000	30,000
Proposed dividend	8,000	10,000	Preliminary expenses	5,000	-
Unclaimed dividend	2,000	5,000	Discount on issue of shares		1,000
	<u>1,13,000</u>	<u>1,55,000</u>		<u>1,13,000</u>	<u>1,55,000</u>

Additional information:

- Depreciation on machinery for the year 2009 amounted to Rs. 7000.
- In 2009, the company acquired some assets and liabilities from Z Ltd. For Rs. 13,000 and paid the purchase consideration by fully paid equity shares of the company of Rs. 9,000 and the balance paid in cash. Assets and liabilities acquired from Z Ltd. were Goodwill Rs. 3,000, Machinery Rs. 8,000, Stock Rs. 7000, and creditors Rs.5000.
- Dividend on investment of Rs. 5,000 received during 2009, which included pre-acquisition dividend of Rs. 2,000.
- Debentures were issued at discount of 10% and debenture of Rs. 1,200 was paid during 2009.
- Stock on 31<sup>st</sup> December 2008 of Rs. 25,000 was valued at 20% below cost, but stock on 31<sup>st</sup> December 2009 of Rs. 28,000 was correctly valued at cost.



- (f) Unclaimed dividend as on 31<sup>st</sup> December 2008 was fully claimed by respective shareholders during 2009 and was duly paid off.
- (g) In addition an interim dividend of Rs. 9,000 was paid during the year 2009. Prepare a statement showing changes in working capital as on 31<sup>st</sup> December 2009 and a fund flow statement for the year ended 31<sup>st</sup> December 2009.
10. Write an essay about essential features of Responsibility accounting?

**(3 × 10 = 30 Marks)**

### PART – C

Compulsory.

11. The following accounting information and financial ratios have been obtained in respect of Meghna Ltd, relating to the year ended on 31<sup>st</sup> March 2009:

**A. Accounting Information:**

Gross profit	15% of sales
Net profit	8% of sales
Raw materials consumed	20% of works cost
Direct wages	10% of works cost
Stock of raw materials	3 month's usage
Stock of finished goods	6% of works cost
Debt collection period	60 days
All sales are made on credit	





B. Financial Ratios:

Fixed assets to sales	1:3
Fixed assets to current assets	13:11
Current ratios	2:1
Long term loans to current liability	2:1
Capital to reserves and surplus	1:4

If the value of fixed assets as on 31<sup>st</sup> March 2009 amounted to Rs. 26 Lakhs, prepare a summarized profit and loss account of the company for the year ended 31<sup>st</sup> March 2009 and a Balance sheet on that day.

(20 Marks)





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**First Semester M.B.A. (Full Time/UIM/Travel and Tourism/Regular Evening) Degree Examination, November 2019**

**MGT 102 MANAGERIAL ECONOMICS**

**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART A**

Answer **All** the questions. Each question carries **5** Marks

1. Why is managerial economics considered as a central part of each functional area of management? Discuss.
2. Explain the determinants of elasticity of demand.
3. What are isoquants? Elaborate on the properties of isoquants.
4. Explain the distinguishing features of an oligopoly market.
5. Explain the steps of measuring national income by income method.

**(5 × 5 = 25 marks)**

**PART B**

Write in detail on any **three** questions. Each question carries **10** marks.

6. Describe the fundamental concepts of business decisions.
7. Critically evaluate any five methods of demand forecasting.
8. Explain the Law of Diminishing Marginal Returns. What are its assumptions?

P.T.O.





9. It is believed that a firm under perfect competition is a price-taker and not a price-maker. Elaborate on this statement.
10. Why do business cycles occur in an economy? Describe various phases of a business cycle.

**(3 × 10 = 30 marks)**

### PART C

#### Compulsory

11. (a) Explain the concept of Break-even point. What are the assumptions and limitations of break-even analysis?
- (b) From the information given below, calculate
- (i) P/V Ratio
  - (ii) Contribution
  - (iii) Fixed Expenses
  - (iv) Expected profit if sales is budgeted at Rs. 1,50,000.

Year	Sales	Profit
2016	2,20,000	40,000
2017	3,00,000	60,000

**(1 × 20 = 20 marks)**



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**First Semester M.B.A. (Full Time/UIM/Travel and Tourism/Regular  
(Evening) Degree Examination, November 2019**

**MGT 101 PRINCIPLES AND PRACTICE OF MANAGEMENT**

**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART – A**

Answer **all** the questions. Each question carries **5** marks.

1. Management is "knowing exactly what you want men to do and then seeing that they do it in the best and the cheapest way" Discuss and enunciate some of the basic principles of scientific management.
2. Explain Maslow's need hierarchy and discuss its relevance in the present day business situations.
3. "Planning without control is meaningless and control without planning is a wasted effort". Comment.
4. Why motivation is known as the core of management? Also explain the theory Z of F.L. Urwick.
5. What are the challenges faced by the 21<sup>st</sup> century managers?

**(5 × 5 = 25 Marks)**

P.T.O.





## PART – B

Write in detail on **any three** questions. Each question carries **10** marks.

6. Give a brief account of the evolution of management thought from early times to modern times. Also comment on the usefulness of studying evolution of management thought.
7. Explain the main features of Japanese and American management systems. Also make comparison.
8. "Good managers can make even inefficient organization effective and therefore, staffing is one of the most effective managerial function". Elucidate.
9. Explain the following :
  - (a) Managerial grid
  - (b) Participative management style
  - (c) Trait theory of leadership
10. "Decision making is the primary task of the manager". Critically analyze this statement and explain the process of scientific decision making.

**(3 × 10 = 30 Marks)**

## PART – C

Compulsory.

11. Please read the below case and answer the question given at the end :

Sundar Steel Limited was a medium-sized steel company manufacturing special steels of various types and grades. It employed 5,000 workers and 450 executives. Under the General Manager (Production), there were operation, maintenance, and services groups, each headed by a chief. The Chief of Maintenance was Shukla and under him Mukherjee was working as the Maintenance Engineer. The total strength of Maintenance was 500 workers,



25 executives, and 50 supervisors. Chatterjee was working in Maintenance as a worker for three years. He was efficient. He had initiative and drive. He performed his duties in a near perfect manner. He was a man of proven technical ability with utmost drive and dash. He was promoted as Supervisor. Chatterjee, now a Supervisor, was one day passing through the Maintenance Shop on his routine inspection. He found a certain worker sitting idle. He pulled him up for this. The worker retaliated by abusing him with filthy words. With a grim face and utter frustration, Chatterjee reported the matter to Mukherjee. The worker who insulted Chatterjee was a "notorious character", and no supervisor dared to confront him. Mukherjee took a serious view of the incident and served a strong warning letter to the worker. Nothing very particular about Chatterjee or from him came to the knowledge of Mukherjee. Things were moving smoothly. Chatterjee "was getting along well with others.

But after about three years, another serious incident took place. A worker came drunk to duty, began playing cards, and using very filthy language. When Chatterjee strongly objected to this, the worker got up and slapped Chatterjee. Later, the worker went to his union and reported that Chatterjee had assaulted him while he was performing his duties. Chatterjee had no idea that the situation would take such a turn. He, therefore, never bothered to report the matter to his boss or collect evidence in support of his case. The union took the case to Shukla and prevailed over him to take stern action against Chatterjee. Shukla instructed Mukherjee to demote Chatterjee to the rank of a worker. Mukherjee expressed his apprehension that in such a case Chatterjee will be of no use to the department, and the demotion would adversely affect the morale of all sincere and efficient supervisors. But Chatterjee was demoted.

Chatterjee continued working in the organization with all his efficiency, competence, and ability for two months. Then he resigned stating that he had secured better employment elsewhere. Mukherjee was perturbed at this turn of events. While placing Chatterjee's resignation letter before Shukla, he expressed deep concern at this development.

Shukla called Chief of Personnel for advice on this delicate issue. The Chief of Personnel said, "I think the incident should help us to appreciate the essential qualification required for a successful supervisor. An honest and hardworking man need not necessarily prove to be an effective supervisor. Something more is required for this as he has to get things done rather than do himself."



Mukherjee said. "I have a high opinion of Chatterjee. He proved his technical competence and was sincere at his work. Given some guidance on how to deal with the type of persons he had to work with, the sad situation could have been avoided."

Shukla said, "I am really sorry to lose Chatterjee, He was very honest and painstaking in his work. But I do not know how I could have helped him. I wonder how he always managed to get into trouble with workers. We know they are illiterates and some of them are tough. But a supervisor must have the ability and presence of mind to deal with such men. I have numerous supervisors, but I never had to teach anybody how to supervise his men".

Questions :

- (a) Identify the problems in this case.
- (b) Do you think the decision taken by Shukla is in keeping with the faith, trust and creating developmental climate in the organisation ? Critically evaluate.
- (c) How would you help in improving behaviour of employees?
- (d) How would you react to the role and statement of the Chief of Personnel, keeping the whole case and its duration in view?

(1 × 20 = 20 Marks)

Handwritten calculations in blue ink:

$$\begin{array}{r} 1168 \\ 2168 \\ \hline 3218 \end{array}$$



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First Semester M.B.A (FullTime/UIM/Travel & Tourism)/Regular (Evening)  
Degree Examination, November 2019

**MGT 103 – BUSINESS COMMUNICATION AND SOFT SKILLS**  
**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART A**

Answer **all** the questions. Each question carries **5** marks.

1. Enumerate the essentials of effective business communication.
2. Differentiate between formal and informal communication.
3. Describe the different non-verbal communication in business.
4. Explain the purpose and format of a memo.
5. Outline the various guidelines for group discussion.

**(5 × 5 = 25 Marks)**

**PART B**

Write in detail on any **Three** questions. Each question carries **10** marks.

6. Describe the reasons for poor organizational communication.
7. Elaborate on the factors to be considered while communicating with people from different cultures.

P.T.O.





8. Explain the key components to be kept in mind for effective public speaking.
9. What are the rules to be followed in preparing press releases?
10. Describe the essential components of a brochure that you would consider if you were to design one for a national seminar.

**(3 × 10 = 30 Marks)**

**PART C**  
**Compulsory**

11. Soulight Ltd., a family-owned medium sized concern located in Bangalore has been in operation since 2008. Over the years, the company has evolved into one of the most profitable venture with an annual sales turnover of over Rs.100 crores employing around 2000 employees. Soulight offers a wide selection of unique flowers and also produces a variety of complimentary giftware. They have a production facility, three warehouses, five retail stores and a office. As the Company grew over the years, the CEO Mr. Aakash Khanna feels that the communication between the employees has declined. This feeling was all the more justified when Aakash observed a decrease in the productivity and an increase in complaints from the customers. He thought that the Company was losing its control over the production and marketing aspects. As he was worried about the current situation, he sent an email to the production manager and the marketing manager asking them to come up with a solution. They in turn sent emails to their supervisory and marketing field staff asking them to put in greater effort and plan their work. Aakash observed that even after one month the situation has not improved. He also felt that he had no communication with the employees down the line.

Questions :

- (a) What do you think are the problems of the Company?
- (b) Was Aakash justified in his actions?
- (c) Outline various strategies for facilitating communication within the Company.
- (d) If you are hired as a consultant, what will be your suggestions to ensure that such problems would not arise in the future?

**(1 × 20 = 20 Marks)**



Date : 09/12/2019  
Time : 1.30 pm - 4.30 pm

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First Semester M.B.A. (Full Time/UIM/Travel and Tourism)/Regular  
(Evening) Degree Examination, November 2019

**MGT 107 : BUSINESS ENVIRONMENT AND ETHICS**

(2018 Scheme)

Time : 3 Hours

Max. Marks : 75

**PART - A**

Answer **all** the questions. Each question carries **5** marks.

1. Why a business student should learn business environment?
2. What are the characteristics of a mixed economy?
3. What is environmental impact assessment report (EIA)?
4. What are the roles performed by ethics committee in an organisation?
5. Explain the concept of corporate social responsibility.

(5 × 5 = 25 Marks)

**PART - B**

Write in detail on any **three** questions. Each question carries **10** marks.

6. Explain about any two governmental initiatives in India which are focused on rural development.
7. Explain the concept and features of goods and service tax (GST) in the Indian context.

P.T.O.





8. How does culture of a place impacts business environment? Substantiate it with an example of your choice.
9. Distinguish code of conduct VS code of ethics.
10. Discuss in detail about ethical leadership in the current competitive environment.

**(3 × 10 = 30 Marks)**

**PART – C**

**Compulsory.**

11. A UN report on water conservation in 2014 suggested that by 2025, nearly 3.4 billion people around the world would be living in “water scarce” countries and the situation would become grim in the next 25 years. The report further stated that due to its unique geographical position, India would face the brunt of the crisis and would be at the center of this conflict. According to “India Water Purifier Market Outlook”, India’s water purifier market had grown at a CAGR of 21.24% between 2009 and 2015. The Tata Group was one of the contributors to the growth in the water purifier market. Tata Swach, the water purifier, delivered safe drinking water at a new market brechmark of Rs. 30 per month for a family of five. It was user-friendly and affordable and did not require electricity, boiling, or running water to operate. It was priced at Rs. 999 and had a capacity of 18 liters. The replaceable filter, which automatically stopped water supply after its useful life, was priced at Rs. 249 and could be used to purify 3,000 liters of water. Tata Swach, apart being a commercial product, was distributed as a part of the Tata Group’s CSR activity. On January 30, 2011, Tata Chemicals with the US-based public charity, Hawaii Children’s Foundation, distributed one hundred Tata Swach purifiers in the villages and primary schools of Babrala, Uttar Pradesh, Northern India. Tata decided to develop Swach after it realized the need for clean water in the rural areas of India. Swach was developed keeping in mind the rural market and was introduced as the world’s cheapest purifier. It was targeted at first time users in rural India but became a huge success in the India urban market too. Swach purifiers were distributed as part of CSR activities followed by Tata to create awareness about the importance of safe drinking water. The case highlights the integrated effort of the Tata Group to make Tata Swach a commercial product and a part of CSR initiatives.
  - (a) Critically evaluate this case based on the ethical and CSR perspective.
  - (b) Explain with an example how CSR activities can be embedded in the products and activities of a company.

**(1 × 20 = 20 Marks)**





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**First Semester M.B.A.(Full Time/UIM/Travel and Tourism/Regular  
(Evening)) Degree Examination, November 2019**

**MGT 105 ORGANISATIONAL BEHAVIOUR**

**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART – A**

Answer **all the** questions. Each question carries **5** marks

1. Write a short note on Alderfer's ERG Theory.
2. What is learning?
3. What is Extraversion?
4. What is organizational effectiveness?
5. What is meant by group norms?

**(5 × 5 = 25 Marks)**

**PART – B**

Write in detail on **any Three** questions. Each question carries **10** marks

6. Briefly discuss the Contributing disciplines to the field of organizational behavior.
7. Discuss the Maslow's need hierarchy theory.

P.T.O.





8. Briefly discuss the theories of leadership.
9. Discuss briefly the organizational sources of resistance to change.
10. Explain the *Johari Window*.

**(3 × 10 = 30 Marks)**

### **PART – C**

#### **Compulsory**

11. Read the short case and answer the questions given below:

Ms Lakshmi was the head of the marketing division at the Great India Limited (GIL) Head office based in Mumbai. One could say Lakshmi was very lucky as she had it all a high profile job with a big company, high pay along with stock options, a likeable enthusiastic team of co-workers. On the personal front, Lakshmi's husband was a senior financial specialist with a MNC and they had a daughter who was going to a reputed school with a good housekeeper to look after the daughter and home. On the job front, Lakshmi was liked not only by her colleagues but by her subordinates as well as her superiors for her total commitment to the task assigned to her, communication abilities and pleasant personality. The top management of GIL were deliberating on the merging of this company with their sister concern Bharathi Ltd so as to gain strategic competence. After this decision was tentatively communicated there seemed to be visible change in working conditions leading to increase in level of manager's perceived stress. The most stressful organizational change events were the frequent changes in instructions, policies and procedures, facing unexpected crises and deadlines and sudden increase in the activity level or pace of work. Lakshmi realized that stress was affecting her team's performance because many of her managers complained about work overload, absence of a proper feedback and only communication was received when performance was found to be unsatisfactory, along with role conflict and ambiguity. Lakshmi, at her level, tried to address these issues by frankly telling her subordinates that the management had not given clear guidelines on how the organizational changes were going to affect this firm's employees. So till such instructions were received, they (employees) should continue to work as per the current requirement. She also advised them to do regular physical exercise and





ensure a proper intake of balanced diet so as to reduce stress. Very soon lakshmi also started feeling that stress was affecting her performance. She recalled the turn of events after receiving oral information on the management's decision to elevate her to the post of Vice President (Marketing) She had made two presentations of two important issues to the board during the past two months. And they were reasonably good based on the feedback received from her superiors. Lakshmi remembered that at the time of the presentation, though "keyed -up", her presentation had revealed a lot of enthusiasm, energy and confidence. She had been able to answer almost all the questions put forward to her by the board members. But after the presentations, Lakshmi started feeling that at the workplace, her schedule was dominated by one crisis after another. On most of the days when she came home it was very late, giving her hardly any time to talk and play with her daughter or talk to her husband. Many of her work days started at 8 a.m. and contained till almost 9 p.m. She longed for quality time, specially to be with her family and also pursue her passion of playing the "Veena", her favourite musical instrument. Finally, one fine day, Lakshmi presented her resignation letter to her superior quoting "personal reasons" as the reason for leaving.

Questions:

- (a) Identify the causes of stress at the individual level (for Lakshmi) and the general work stressors in the above case
- (b) What methods of stress management would you suggest to the organization in the above case, to reduce stress at the individual employee level and organizational level?

(1 × 20 = 20 Marks)





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**First Semester M.B.A. (Full Time/UID/Travel and Tourism/Regular  
(Evening)) Degree Examination, November 2019**

**MGT 106 : QUANTITATIVE TECHNIQUES**

**(2018 Scheme)**

Time : 3 Hours

Max. Marks : 75

**PART – A**

Answer **all** questions. Each question carries **5** marks :

1. The grades of 10 students on their first management test are shown below.

94 61 96 66 92

68 75 85 84 78

- (a) Construct a frequency distribution. Let the first class be 60 – 69.  
(b) Construct a cumulative frequency distribution.  
(c) Construct a relative frequency distribution.

2. A local university administers a comprehensive examination to the recipients of a B.S. degree in Business Administration. A sample of examinations are selected at random and scored. The results are shown below :

Grade

93

65

80

97

85

87

97

60

P.T.O.





For the above data, determine

- (a) The mean
- (b) The median
- (c) The mode
- (d) The standard deviation
- (e) The coefficient of variation

3. A random variable  $x$  has the following probability distribution :

$x$	$f(x)$
0	0.08
1	0.17
2	0.45
3	0.25
4	0.05

- (a) Determine the expected value of  $x$ .
  - (b) Determine the variance.
4. What is regression? Explain how it is useful in business data analysis.
5. Explain the major components of time series data, and justify using relevant examples.

**(5 × 5 = 25 Marks)**





## PART – B

Write in detail on any **three** questions. Each question carries **10** marks.

6. A survey of a sample of business students resulted in the following information regarding the genders of the individuals and their selected major.

Selected Major

Gender	Management	Marketing	Others	Total
Male	40	10	30	80
Female	30	20	70	120
Total	70	30	100	200

- (a) What is the probability of selecting an individual who is majoring in Marketing?
  - (b) What is the probability of selecting an individual who is majoring in Management, given that the person is female.
  - (c) Given that a person is male, what is the probability that he is majoring in Management?
  - (d) What is the probability of selecting a male individual?
7. A manufacturing company has 5 identical machines that produce nails. The probability that a machine will break down on any given day is 1. Define a random variable  $X$  to be the number of machines that will break down in a day.
- (a) What is the appropriate probability distribution for  $X$ ? Explain how  $X$  satisfies the properties of the distribution.
  - (b) Compute the probability that 4 machines will break down.
  - (c) Compute the probability that at least 4 machines will break down.
  - (d) What is the expected number of machines that will break down in a day?
  - (e) What is the variance of the number of machines that will break down in a day?





8. The monthly incomes from a random sample of workers in a factory are shown below.

Monthly Income

(In \$1,000)

4.0

5.0

7.0

4.0

6.0

6.0

7.0

9.0

- (a) Compute the standard error of the mean (in dollars).
- (b) Compute the margin of error (in dollars) at 95% confidence.
- (c) Compute a 95% confidence interval for the mean of the population. Assume the population has a normal distribution. Give your answer in dollars.
9. A group of young business women wish to open a high fashion boutique in a vacant store but only if the average income of households in the area is at least \$25,000. A random sample of 9 households showed the following results.

\$28,000 \$24,000 \$26,000 \$25,000

\$23,000 \$27,000 \$26,000 \$22,000

\$24,000

Assume the population of incomes is normally distributed.

- (a) Compute the sample mean and the standard deviation.
- (b) State the hypotheses for this problem.
- (c) Compute the test statistic.
- (d) At 95% confidence using the  $p$ -value approach, what is your conclusion?





10. Five hundred randomly selected automobile owners were questioned on the main reason they had purchased their current automobile. The results are given below.

	Styling	Engineering	Fuel Economy	Total
Male	70	130	150	350
Female	30	20	100	150
Total	100	150	250	500

- State the null and alternative hypotheses for a contingency table test.
- State the decision rule for the critical value approach. Let  $\alpha = .01$
- Calculate the  $\chi^2$  test statistic.
- Give your conclusion for this test.

(3 × 10 = 30 Marks)

### PART – C

(Compulsory)

11. The following data represent the number of flash drives sold per day at a local computer shop and their prices.

Price (x)	Units sold (y)
\$34	3
36	4
32	6
35	5
30	9
38	2
40	1





- (a) Develop a least-squares regression line and explain what the slope of the line indicates.
- (b) Compute the coefficient of determination and comment on the strength of relationship between  $x$  and  $y$ .
- (c) Compute the sample correlation coefficient between the price and the number of flash drives sold. Use  $\alpha = 0.01$  to test the relationship between  $x$  and  $y$ .

**(20 Marks)**

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