SHRIMATI INDIRA GANDHI COLLEGE

(Nationally Accredited at 'A' Grade (3rd Cycle) By NAAC)

Tiruchirappalli – 2.

QUESTION BANK FOR
M.C.A
2017-2018

DEPARTMENT OF COMPUTER APPLICATIONS

CONTENT

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M.C.A. Degree Examination, April 2017.

Computer Applications

ACCOUNTING AND FINANCIAL MANAGEMENT

Part – A   (10X2=20)

ANSWER ALL THE QUESTIONS.

1. What is Double entry book keeping?

2. Define Amortization.

3. What is Ledger?

4. What do you mean by day book?

5. What is quick ratio?

6. Define inventory turnover ratio.

7. Define incremental cost.

8. what is Variable cost?

9. Define budgeting.

10. What is Zero Base Budgeting?

Part – B   (5X5=25)

ANSWER ALL THE QUESTIONS.

11. a) What is the procedure to record transactions in the journal?

(OR)

b) Explain the types of accounts and rules for accounting with example.

12. a) Enumerate trading account and profit and loss account.

(OR)

   b) Describe the format of a Balance Sheet.

13. a) Why should financial statement be analysed?

(OR)

   b) Enumerate the uses of ratio analysis.

14. a) Explain the need for cost calculations.

(OR)

   b) Describe the uses of Cost Volume Profit analysis.

15. a) Explain budgeting and its advantages.

(OR)

   b) Give any two real time examples of budgetary control.

PART–C   **(3X10=30)**

ANSWER ANY 3 OF THE FOLLOWING.

16. Explain the procedure to account depreciation in insurance policy method throughout the life using sample journal entries.

17. Prepare the final accounts for the given balances of accounts.

	Rs.
a. Opening Stock	20000
b. Purchases	100000
c. Capital	300000

d. Sales	450000
e. Advertisement	5000
f. Salary	50000
g. Electricity	25000
h. Machinery	400000
i. Land and Building	200000
j. Furniture	250000
k. Power	35000
l. Carriage in	4000
m. Customs duty	1000
n. Loan from bank	450000
o. Rent	3000
p. Salesman Commission	5000
q. Commission earned	3000
r. Bad debts	10000
s. Provision for bad debts	19000
t. Insurance for fire	7000
u. Interest paid	10000
v. Wages	75000
w. Stationery	3000
x. Transportation	14000
y. Telephone	5000

Adjustments:

(i) Closing stock   Rs.60000

(ii)Loss due to fire

Rs.20000 and claim	Rs.18000
(iii) Bad Debts	Rs.3000
(iv) Provision for bad debts	Rs.2000
(v) Depreciation for land and building	12%
(vi) Depreciation for all other assets	10%
(vii) Out standing salary	Rs.1000

18. Explain different ratios used to analyse the financial statement.

19. Explain the structure of the cost sheet.

20. Prepare a flexible bugget for 80%, 90%, and 100% utilization of the firm. The details for the utilization of 75% were given below.

Number of Units produced 60000Units. Labour cost, Material cost and other expenses are Rs.25000, Rs. 75000, and Rs. 1000 respectively. Administrative overhead (20% variable), sales overhead (35% fixed) and Distribution overhead (30% fixed) are Rs. 200000, Rs. 40000, and Rs. 25000 respectively. Machinery, Furniture, Rent for factory are Rs. 20000, Rs. 13000, and Rs. 5000 respectively.

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M.C.A. Degree Examination, April 2017.

Computer Applications

DATA MINING AND WAREHOUSING

Part – A(10X2=20)

ANSWER ALL THE QUESTIONS.

1.What is Data mining?

2. List any five data mining tasks.

3. Explain the terms: confidence and support

4. What is maximal item set? Explain

5. Define terms: supervised and unsupervised learning.

6. Write common distance measures used in clustering.

7. What is web data mining? Write its types.

8. What is crawler?

9.Compare OLTP with OLAP.

10. What is data cube? Give an example.

Part – B (5X5=25)

ANSWER ALL THE QUESTIONS.

11. a) Expalin data mining functionalities.   (OR)

   b) Write short notes on transaction reduction approach.

12. a) What do you meant by classification? Explain its phases.

(OR)

b) Write short notes on hierarchical clustering.

13. a) Compare and contrast-search engine with Information retrieval.

(OR)

b) Explain ranking algorithm with an example.

14. a) What is ODS? Explain in detail.

(OR)

b) Write a short note on DW metadata.

15. a) Explain any two Data Cube operations with an example.

(OR)

b) Explain the characteristics of OLAP.

PART–C(3X10=30)

ANSWER ANY 3 OF THE FOLLOWING.

16. Explain in detail CRISP-DM process.

17. Explain K-Means clustering algorithm with an example.

18. Discuss basic decision tree algorithm with example.

19. Explain any two schematic representation of data warehouse.

20. Explain in details Kleinberg's algorithm.

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S.No.6366   P11MCA23

(For candidates admitted from 2011-2012) onwards)

M.C.A DEGREE EXAMINATION,APRIL 2017

Computer Application

PROBABILITY AND STATISTICS

Time: Three hours   **Maximum:75 marks**

PART – A   (10X2=20)

ANSWER ALL THE QUESTIONS.

1. State the Theorem of total probability.
2. What is the distribution of Y=1/x if X has a Cauchy distribution with parameter α?
3. The mean and variance of a binomial distribution are 4 and 4/3 respectively.if n=6,find $P(X\geq 1)$.
4. What do you mean by memoryless property of the exponential distribution?
5. State two different formulas used to compute r_{XY}.
6. What is x^2-test of goodness of fit?
7. What is meant by standard error?
8. What is test statistics used to test the significance of the difference between the mean of two small samples?
9. What do the letters in the symbolic representation (a/b/c)⊗d/e) of a queueing model represent?
10. Ina a3-server infinite capacity Poisson queue model if $\frac{\lambda}{s\mu}=\frac{2}{3}$,find P_0

PART-B   (5X5=25)

ANSWER THE FOLLOWING QUESTIONS.

11. a) Show that $2^n -(n+1)$ equations are needed to establish the mutual independence of *n* events.

(OR)

   b) If X and Y are independent random variables with density functions $fx(x)=\frac{8}{x^3}$,,   ,x>2 and $f_Y(y)=2y,0<y<1$,respectively, and Z=XY,find E[Z].

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12. a) If X and Y are independent Poison random variables, show that the conditional distribution of X, given the value of X+Y, is a binomial distribution.

(OR)

b) If X and Y are independent random variables following $N(8,2)$ AND $N(12,4\sqrt{3})$ respectively find the values of λ such that

$P(2X-Y\leq 2\lambda)=P(X+2Y\geq 2\lambda)$

13.a) Calculate the coefficient of correlation between X and Y by finding variance only, from the following data

X: 21 23 30 54 57 58 72 78 87 90

Y: 60 71 72 83 110 84 100 92 113 135

(OR)

b) Theory predicts that the proportion of beans in four groups A,B,C,D should be 9:3:3:1.In an experiment among 1600 beans,the numbers in the four groups were 882,313,287 and 118.Does the experiment support the theory?

14. a) A Sample of 100 students is taken from a large population. The mean height of the students in this sample is 160cm.Can it be reasonably regarded that, in the population, the mean height is 165cm and the S.D is 10cm?

(OR)

b) The mean height and the S.D height of eight randomly chosen soldiers are 166.9 cm and 8.29cm respectively. The corresponding values of six randomly chosen sailors are 170.3cm and 8.50cm respectively. Based on this data can we conclude that soldiers are in general shorter than sailors?

15.a) A duplicating machine maintained for office use is operated by an office assistant who earns Rs.5 per hour. The time to complete each job varies according to an exponential distribution with mean 6 min Assume a Poisson input with an average arrival rate of 5 jobs per hour. If an 8^{-h} day is used as a base, determine

(i) the percentage idle time of the machine

(ii) the average time a job is in the system

(iii) the average earning per day of the assistant.

(OR)

b) A 2-person barber shop has 5 chairs to accommodate waiting customers. Potential customers, who arrive when all 5 chairs are full, leave without entering barber shop. Customers arrive at the average rate of 4 per hour and spend an average of 12 min in the barbers chair.Compute P_0, P_1 and P_7

SECTION – C [3X10=30]

ANSWER ANY THREE QUESTIONS:-

16.The probability function of an infinite discrete distribution is given by $P(X=k)=\frac{1}{2^k}$, $k=1$,2,……,∞ find the following

(a) The mean and the variance of X

(b) $P(X$ is even)

(c) $P(X \geq 5)$ and

(d) $P(X$ is divisible by 3).

17. Fit a binomial distribution for the following data:

x:	0	1	2	3	4	5	6	total
f:	5	18	28	12	7	6	4	80

18. If (X,Y) is a two-dimensional random variable uniformaly distributed over the triangular region R bounded by y=0,x=3 and y=4/3x.Find $f_x(x),f_y(y),E[X],var(X),E[Y],var(Y)$ and r_{xy}.

19. Two independent samples of sizes 8 and 7 contained the following values:

Sample I: 19 17 15 21 16 18 16 14

Sample II:15 14 15 19 15 18 16

Is the different between the sample means significant?

20. A telephone company is planning to install telephone booths in a new airport. It has established the policy that a person should not have to wait more than 10% of the times he tries to use a phone. The demand for use is established to be Poisson with an average of 30 per hour. The average phone call has an exponential distribution with a mean time of 5 min. How many phone booths should be installed?