

B.Sc Mathematics
Fourth semester
Assignment questions

Algebra and Calculus II

Course Code:MM1441

Question

1. Evaluate $\int_0^{\frac{3}{2}} \int_y^{3-y} y dx dy$
2. Evaluate $\int_0^1 \int_0^{\sqrt{1-x^2}} (x^2 + y^2) dx dy$
3. Evaluate $\int_1^2 \int_x^{x^2} \int_0^{\log z} x e^y dy dx dz$
4. Evaluate $\lim_{(x,y,z) \rightarrow (0,0,0)} \frac{\sin(\sqrt{x^2+y^2+z^2})}{x^2+y^2+z^2}$
5. Given that $f(x) = x^4 - 3x^3 + x^2 - 3x + 2$ in $\mathbb{Q}[x]$. Find the square free part of $f(x)$.
6. Write $(x^2 + 3x + 1)^4$ in the base $(x + 2)$
7. Find the quotient and remainder when the first polynomial divided by the second polynomial
 - i) $3x^3 + 4x^2 - 3$ by $(x + 3)$
 - ii) $2x^4 - x^3 + 4x$ by $(x^2 + 1)$
8. Find all roots in $\mathbb{R}[x]$ of $f(x) = x^2 - 2x$ when
 - i) $R = \frac{z}{10z}$
 - ii) $R = \frac{z}{15z}$

QUESTIONS

1. Prepare a project report regarding the emergence of Internet and its impact on business.
2. Describe the major security issues in e-commerce and its remedies
3. Explain the different e-payment methods.
4. Prepare a project report on the various e-marketing strategies

MANAGEMENT ACCOUNTING**Course Code : CO1431.2****QUESTIONS**

1. What do you mean by management accounting? Difference between management accounting and financial accounting. Describe the procedure for installation of management accounting system.
2. The Balance Sheet of Tarun Ltd as on 31st March 2019 is given below.

Liabilities	Amount	Assets	Amount
Preference share Capital	2,00,000	Land and building	1,75,000
Equity share capital	3,00,000	Plant and machinery	2,00,000
Reserves and surplus	75,000	Investment	75,000
Long term loans	50,000	Stock	90,000
Bills payable	10,000	Sundry debtors	60,000
Sundry creditors	15,000	Cash at bank	60,000
Outstanding expenses	4,000		

Proposed dividend	6,000		
	6,60,000		6,60,000

Prepare common size Balance Sheet.

3. Calculate the following from the following data

- Current ratio 1.4
- Liquid ratio 1.0
- Stock turnover ratio 8 (based on closing stock)
- Gross profit ratio 20%
- Debt collection period 1.5 months
- Reserves and surplus to capital 0.6
- Fixed assets turnover ratio 1.6
- Capital gearing ratio 0.5
- Fixed assets to net worth 1.25
- Sales for the year ₹ 10,00,000

4. From the following balance sheet as on 31st march 2013 and 2014, you are required to prepare schedule of changes in working capital and funds flow statement for the year ended 31st march 2014.

Liabilities	Amount		Assets	Amount	
	2013	2014		2013	2014
Share capital	10000	15000	Building	4000	5000
General Reserve	4000	6000	Plant	3000	5000
Profit and loss a/c	5000	9000	Stock	10000	12000
Creditors	8000	12000	Debtors	10000	15000
Bills payable	5000	3000	Cash	5000	8000
	32000	45000		32000	45000

Testing of hypothesis and Analysis of Variance

Course code : ST 1431.1

Questions

1. Define
 1. critical region
 2. significance level
 3. power.
4. Distinguish between simple and composite hypotheses. Give one example each. State Neymann-Pearson lemma.
5. For a population with p.d.f., $f(x, \theta) = (1 + \theta)x$, $\theta \geq 0$, $0 \leq x \leq 1$ and zero elsewhere, the hypothesis $H_0 : \theta = 1$ is to be tested based on a single observation taken from the population. It is suggested to reject the hypothesis if the observation less than 0.6. Find the significance level of the test and also the probability of the second type of error if $H_1 : \theta = 1.5$ is the alternative hypothesis ?
5. For a normal population with mean μ and standard deviation 1, find the most powerful test for testing $H_0 : \mu = 6$ against $H_0 : \mu = 6.5$ using a sample of size n with significance level $\alpha=0.05$. Find the powers of the test for $n=4,9,16,25$ and 36. Show that power increases as n increases.
6. A die is thrown 9000 times and a throw of 3 or 4 was observed 3240 times. Show that the die cannot be regarded as an unbiased one ?
7. A dice was thrown 180 times. The following results were obtained
Number turning up: 1 2 3 4 5 6
Frequency: 25 35 40 22 32 26
Test whether the die is unbiased ?
8. A sample of 25 manufactured articles show a variance of 100 in an important characteristic when manufacturing was done by a new method. In the old method the variance was. Do you think that the variability has increased.

TOPICS FOR ASSIGNMENT AND CASE ANALYSIS

BA/ B.Sc.

SEMESTER: IV

Language Course 8: READINGS IN LITERATURE

(BA/B.Sc. English V) EN1411.1

ASSIGNMENT TOPICS

Attempt all these topics each in 3-4 pages

- 1) Contribution of Wordsworth and Keats to English poetry.
- 2) Views of Nehru and Mandela on freedom

(10 marks)

Case Analysis

Write an essay on different literary forms and their features with suitable examples in about 8 pages.

(10 marks)

Additional Language Course: HINDI

ASSIGNMENT MAXIMUM MARKS- 10

CASE ANALYSIS MAXIMUM MARKS-10

ASSIGNMENT

I.HN-1411.–ADDITIONAL LANGUAGE –DRAMA AND TRANSLATION, (नाटक और अनुवाद)

नाटक के तत्वों के आधार पर 'बिना दीवारों का घर' नाटक का विश्लेषण कीजिए।

या

अनुवाद की विभिन्न परिभाषा देकर अनुवाद का महत्व, अच्छे अनुवादक का गुण, अनुवाद की समस्याएं आदि पर प्रकाश डालिए।

CASE ANALYSIS

पत्र के विभिन्न प्रकारों को सोदाहरण प्रस्तुत कीजिए।

ASSIGNMENT & CASE ANALYSIS

SEMESTER 4

ML.1411.1

അഡീഷണൽ ലാംഗ്വേജ് IV

ASSIGNMENT

- കമ്പ്യൂട്ടർ വിവർത്തനത്തിന്റെ നേട്ടങ്ങളും കോട്ടങ്ങളും വിലയിരുത്തുക.
അല്ലെങ്കിൽ
- തെറ്റായ രൂപത്തിൽ പൊതുവെ എഴുതപ്പെടുന്ന വാക്കുകളും അവയുടെ ശരിയായ രൂപങ്ങളും ഉൾപ്പെടുത്തി 200 വാക്കുകളുടെ ഒരു പദകോശം തയ്യാറാക്കുക

CASE ANALYSIS

- കാവ്യപ്രചോദനത്തെക്കുറിച്ചുള്ള ഭാരതീയ സങ്കല്പം വിലയിരുത്തുക
അല്ലെങ്കിൽ
- ഭരണനിർവ്വഹണം മാതൃഭാഷയിലൂടെ ആകേണ്ടതിന്റെ ആവശ്യകത വിലയിരുത്തുക