

B.Sc MATHEMATICS
SECOND SEMESTER
ASSIGNMENT QUESTIONS (2024 ADMISSION)

FOUNDATION OF MATHEMATICS Course code: MM1221

Questions

1. Describe $\frac{z}{3z}$
2. $[173]_{12}$
3. $[13]_{12} + [23]_{12}$
4. $[10]_{12} \times [23]_{12}$
5. $[9]_{18} + [199]_{18}$
6. Find $[3]_7 \times [22]_7$
7. Describe $\frac{z}{24z}$
8. Find inverse of $[2]$ in $\frac{z}{13z}$
9. Find inverse of $[4]$ in $\frac{z}{13z}$
10. Find inverse of $[5]$ in $\frac{z}{13z}$
11. Find inverse of $[7]$ in $\frac{z}{13z}$
12. Find units in $\frac{z}{7z}$
13. Find units in $\frac{z}{13z}$
14. Find units in $\frac{z}{5z}$
15. Integrate $f(x) = x$ using integral as the sum
Find the area under the curve of $f(x) = \sqrt{a^2 - x^2}$
where $0 < x < a$
16. $\lim_{x \rightarrow +\infty} \frac{6x-1}{2x+3} = 3$ and $\epsilon = 0.01$ find N

17. Show that $\lim_{x \rightarrow 0} \frac{1}{x^2} = \infty$ [using ϵ - delta]
18. Describe whether $f(x) = \begin{cases} \frac{x}{|x|} & x \neq 0 \\ 0 & x = 0 \end{cases}$
Is integrable or not in the $[-1, 1]$
19. Evaluate $\int_0^6 \sqrt{6x - x^2} \, dx$
20. Find the volume of a solid obtained by revolving the area between the curve $y^2 = x^3$ and $x^2 = y^3$ about the x – axis.
21. Find the volume of the solid formed by the rotation of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ about the
i) x – axis
ii) y – axis

ASSIGNMENT

ADVANCED FINANCIAL ACCOUNTING (course Code:1231)

QUESTIONS

1. From the following Trial balance of Thambi , prepare Trading and Profit and Loss Account for the year ending 31st March 2021 and a Balance sheet as on that date.

Debit balance	Rs.	Credit balance	Rs.
Drawings	5275	Capital	59,700
Bills receivable	4,750	Bank Loan	10,000
Machinery	14,400	Commission received	2,820
Book debts	30,000	Creditors	29,815

Wages	20,485	Sales	1,77,000
Purchases	1,28,295	Interest on Investment	1,215
Coal ,coke and power	2,810		
Stock	44,840		
Salaries	5,500		
Returns inwards	2,390		
Travelling expenses	1,145		
Cash	750		
Insurance	1,685		
Interest on Loan	500		
Discount allowed	2,435		
Bad debts	1,810		
Furniture	4,480		
Investments	9,000		
	2,80,550		2,80,550

The following adjustments are to be made:

1. Stock in shop on 31st March 2021 was Rs. 64,480
2. Depreciate machinery and furniture by 10%
3. Write off bad debts Rs.1500
4. Provide interest for bank loan @ 10% for half year
5. Interest accrued on investment amounts to Rs.285

2. Define partnership. Explain partner's capital account and different method used for the preparation it.

3. Rectifying the following errors:
Sales book overcast by Rs700

Credit sales to Mohan Rs.7000 were not recorded
 Credit sales of Mohan Res.7000 were recorded as Rs.700
 Purchases book overcast by Rs.500
 Goods returned to Rakesh Rs.4000 were not recorded as Rs.400

4. What is IFRS? Discuss the advantages for converging IAS with IFRS in the changing globalised era.

Random Variables(Course code : ST1231.1)

QUESTIONS

1. Find the value of K so that $f(x)=Kx(1-x)$ when $0 \leq x \leq 1$ and 0 elsewhere is a pdf.
2. Let X be a continuous random variables with $f(x) = 2x$ if $0 \leq x \leq 1$ and 0 elsewhere. Find the pdf of $y = 8x^3$.
3. Two unbiased coins are tossed. Let X be the number of tails that show up and let $Y = 0$, if the first coin show a head and $Y=1$ if it shows tail. Write down the joint probability function and the joint distribution of (X,Y).
4. Show that. $V(aX+bY)=a^2 V(X)+b^2 V(Y)$ where X and Y are two independent random variables.
5. Find the mean and standard deviation of a random variable X with pdf $f(x) = 6x(1-x); 0 \leq x \leq 1$ and 0 elsewhere.
 Two random variables X and Y are jointly continuous and density function is,
 $f(x,y) = 2x + y - 3xy^2; 0 < x < 1, 0 < y < 1$. Find E(X) and E(Y).
6. Let X be a random variable with pdf $f(x) = xy$;
 when $x = 1, 2, 3$ and zero elsewhere.
 Find $E(X+2)^2$.

7. For the bivariate density function, $f(x,y)=k(2x+3)^2-y^2$; $0 < x < 2, y>0$. Show that $f(x,y) = f(x)f(y)$, k being a constant.
8. Fit a curve of the form $y = a^x b$ for the following data.
- | | | | | | | |
|----|------|------|------|------|------|-------|
| X: | 1 | 2 | 3 | 4 | 5 | 6 |
| Y: | 2.98 | 4.26 | 5.21 | 6.80 | 6.30 | 7.50. |

TOPICS FOR ASSIGNMENT AND CASE ANALYSIS:

ENGLISH COURSES FOR BA/BSc STUDENTS

SEMESTER - 2

Language Course (B.A/B Sc English III)

ENVIRONMENTAL STUDIES: EN 1211.1

ASSIGNMENT TOPICS

Attempt any 2 topics each in 3-4 pages

- 1) What is an ecosystem? What are the main types of ecosystems?.
- 2) The need for Environmental Studies.
- 3) Write an essay on effective solid waste management.
- 4) Explain the threats to biodiversity

(10 marks)

Case Analysis

Write a report on the possible ways of addressing the increasing heat during summer months in Kerala. What are the steps we could take as individuals.

(10 marks)

Language Course 4: MODERN ENGLISH GRAMMAR AND USAGE

(BA/BSc English IV) EN 1212.1.

ASSIGNMENT TOPICS

Attempt these topics each in 3-4 pages

1. Types of sentences
2. Prepositions, Interjections, and Conjunctions

(10 marks)

Case Analysis

Find out five proverbs in English and write one page each on them.

(10 marks)

ASSIGNMENT AND CASE ANALYSIS FOR ADDL. LANGUAGE HINDI

ASSIGNMENT TOPIC

1. HN-1211.1 ADDL. LANGUAGE HINDI-FICTION -NOVEL AND SHORT STORY

1.' आना इस देश ' उपन्यास में प्रस्तुत समस्याओं पर विचार कीजिए ।

या

‘ आना इस देश ‘ उपन्यास के प्रमुख पात्रों का चरित्र चित्रण कीजिए ।

CASE ANALYSIS

‘ दूध का दाम ‘ कहानी का विश्लेषण कीजिए ।

या

‘ हरी बिंदी ’ कहानी की आलोचना कीजिए ।

ASSIGNMENT & CASE ANALYSIS

SEMESTER 2

ML.1211.1

അഡീഷണൽ ലാംഗ്വേജ് II

ASSIGNMENT

- മലയാള ചെറുകഥാസാഹിത്യചരിത്രം സംക്ഷേപിക്കുക.

അല്ലെങ്കിൽ

- മലയാള നോവൽസാഹിത്യചരിത്രം സംക്ഷേപിക്കുക.

CASE ANALYSIS

- മലയാള ഗദ്യസാഹിത്യത്തിന്റെ വികാസത്തിൽ ഉപന്യാസങ്ങൾക്കുള്ള പങ്ക് വിലയിരുത്തുക.

അല്ലെങ്കിൽ

- 'ഒരു ദളിത് യുവതിയുടെ കദനകഥ' എന്ന നോവലിന്റെ സവിശേഷതകൾ വിലയിരുത്തുക.