File No.MU/REG/ACC(A8)/54/2022-Registrar - Academic Section-MANGALORE UNIVERSITY

# ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
# MANGALORE UNIVERSITY

ಕ್ರಮಾಂಕ/ No: ಸಂ: ಎಂಯು/ಎಸಿಸಿ/ಸಿಆರ್ 52/2021-22/ಎ8

ಕುಲಸಚಿವರ ಕಛೇರಿ
ಮಂಗಳಗಂಗೋತ್ರಿ – 574 199
Office of the Registrar
Mangalagangothri – 574 199
ದಿನಾಂಕ/Date: ದಿ:29.07.2022

ರಿಗೆ:

ಮಂವಿವಿ. ಸಂಯೋಜನೆಗೊಳಪಟ್ಟ

ಎಲ್ಲಾ ಕಾಲೇಜುಗಳ ಪ್ರಾಂಶುಪಾಲರಿಗೆ

ಮಾನ್ಯರೆ,

ವಿಷಯ: ದ್ವಿತೀಯ ಸೆಮಿಸ್ಟರ್ ರಸಾಯನ ಶಾಸ್ತ್ರ(Chemistry) ಕೋರ್ ಕೋರ್ಸಿನ ಪ್ರಾಯೋಗಿಕ ಪರೀಕ್ಷೆಯ ಕಾರ್ಯಯೋಜನೆಯ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: ಪದವಿಮಟ್ಟದ ರಸಾಯನ ಶಾಸ್ತ್ರ ಅಧ್ಯಯನ ಮಂಡಳಿ ಅಧ್ಯಕ್ಷರ ಇಮೇಲ್ ದಿ: 22.07.2022

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ಮೇಲಿನ ವಿಷಯಕ್ಕೆಸಂಬಂಧಿಸಿದಂತೆ, ಪದವಿಮಟ್ಟದ ರಸಾಯನ ಶಾಸ್ತ್ರ ಅಧ್ಯಯನ ಮಂಡಳಿ ಅನುಮೋದಿಸಿರುವ ದ್ವಿತೀಯ ಸೆಮಿಸ್ಟರ್ ನ ರಸಾಯನ ಶಾಸ್ತ್ರ ಕೋರ್ ಕೋರ್ಸಿನ ಪ್ರಾಯೋಗಿಕ ಪರೀಕ್ಷೆಯ ಮೌಲ್ಯಮಾಪನಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಪರೀಕ್ಷಾ ಕಾರ್ಯಯೋಜನೆಯನ್ನು ಮಾಹಿತಿ ಹಾಗೂ ಸೂಕ್ತ ಕ್ರಮಕ್ಕಾಗಿ ಈ ಮೂಲಕ ಕಳುಹಿಸಲಾಗಿದೆ.

ತಮ್ಮ ವಿಶ್ವಾಸಿ

(ಕರಡು ಕುಲಸಚಿವರಿಂದ ಅನುಮೋದಿಸಲ್ಪಟ್ಟಿದೆ)

ಕುಲಸಚಿವರ ಪರವಾಗಿ 29/7/22

ಪ್ರತಿ: 1.ಕುಲಸಚಿವರು(ಪರೀಕ್ಷಾಂಗ), ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ,ಮಂಗಳಗಂಗೋತ್ರಿ.

2.ನಿರ್ದೇಶಕರು, DUIMS, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ,ಮಂಗಳಗಂಗೋತ್ರಿ- ವೆಬ್ ಸೈಟ್‌ನಲ್ಲಿ ಪ್ರಕಟಿಸಲು

# MANGLORE UNIVERSITY

## Scheme of Practical Examinations and Valuation Procedures for B.Sc. Chemistry Practicals as per the New Education Policy

**II Semester BSc** **Chemistry Practical – II**

**Duration: 4Hrs** **Max. Marks: 25**

**The practical examination shall consist of the following:**

**Q.1.Exercise set for procedure writing** **5Marks:**

Outlineof the procedure including calculations to be written within first 15 minutes.
Any one of the following exercisesmay be given.

1. Determination of distribution coefficient of benzoic acid between Benzene and Toluene.
2. Determination of Carbonate and hydroxide present in a mixture by titrimetry
3. Determination of oxalic acid and sodium oxalate in a given mixture using standard potassium permanganate and sodium hydroxide solution.
4. Determination of chlorine in bleaching powder using iodometric method.
5. Study of variation of Viscosity of sucrose solution with the concentration of solute.
6. Study of variation of surface tension of detergent solutionwith concentration.

**Q.2. Experimental work.** **20 Marks**

**Any one of the following experiments may be set for the actual experimental work. The distribution of experiments is to be done such that more than four students do not get same experiment.**

1.Determination of density and surface tension of the given liquid (specific gravity bottle and stalagmometer to be supplied]
2. Determination of density and Viscosity of the given liquid (specific gravity bottle and viscometer to be supplied]
3. Determination of % of toluene in a mixture of toluene + alcohol by refractometry.
4. Gravimetric estimation of barium as barium sulphate in the given barium chloride solution.
5. Gravimetricestimation of copper as cuprous thiocyanate in the given copper sulphate solution.
6. Gravimetricestimation of Ni as Nickel dimethyl glyoximate in the given nickel ammonium sulphate solution.
7. Gravimetricestimation of iron as ferric oxide in the given ferrous ammonium sulphate solution.

**Note: In gravimetric estimations brief procedure is to be given. AR grade Chemicals are to be used for the preparation of solutions for estimations.**

## Valuation scheme

The Practical Class Records certified by the teacher in charge and head of the chemistry Department should be produced at the time of examination.

**1. Procedure writing** **: 5 marks**
Outline with essential details **: 3 marks**
Calculation /graph etc **: 2marks**

**2. Experiments** **: 20 marks**

**Experiment (1): Density and Surface tension**

| **Density values** | | **Surface tension values** | |
|---|---|---|---|
| Errors upto ± 1% | : 8 mark | Errors upto :±8%: | 8 marks |
| upto ± 2% | : 6 marks | upto±12% | : 6 marks |
| upto ± 4% | : 4 marks | upto ±15 % | :4 marks |
| upto±10%: | 3marks | upto ±20% | :3 marks |

Any other value : 2 marks Any other value : 2 marks
Calculations : 2+2= 4

**Experiment (2): Density and Viscosity**

Marking of density values

Errors up to ±1% : 8 marks
up to ± 2% : 6 marks
up to ± 3% : 4 marks
up to ± 5% : 3 marks
Any other value : 2 marks
Calculations : 2+2= 4

Viscosity values

Errors upto :±8% : 8 marks
up to± 12% : 6 marks
up to±15 % : 4 marks
up to±20% : 3 marks
Any other value : 2 marks

**Experiment (3): Analysis of a liquid Mixture by Refractometry.**

**a) Graph drawn: 4 marks**

Best straight line graph with at least 4 points -4 marks.
Less than four points -3marks.

**b) Percentage composition of the given mixture in the range.**

upto ±5% :16marks
upto ±7% :12marks
upto ±9% :08 marks
upto ±12% :05marks
Any other value : 03marks

Standard binary liquid mixtures of known compositions are to be prepared fresh by the candidates. Unknown is given by the examiners.

**Experiments (4) to (7) Gravimetric Exercises:**

**i) Mass of precipitate** **16 marks**

Error upto ±2% 16marks
Error upto ±3% 14marks
Error upto ±4% 10marks
Error upto ±5% 06marks
Any other value 04marks

**ii) Calculation** **04 marks**

**NOTE:** In all the above experiments if the calculation is wrong no marks to be given for calculation part, but the examiners are required to calculate the values and award the marks as per scheme.

## Allotment of Internal Assessment Marks

**Total Marks to be awarded** **:25**
**Distribution:**

1. Class Records :5 Marks
2. Continuous assessment during practicals :5 Marks
3. Internal Practical Examination :15 Marks

**Note:** 1) Neat Class records with minimum 10 experiments may be awarded full marks. Marks may be proportionally reduced for lesser number of experiments.

2) Internal practical examination is to be conducted in University Practical Examination model(Max Marks: 25) and then maximum mark is to be reduced to 15.

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