NATIONAL REMOTE SENSING CENTRE
ADVERTISEMENT NO.NRSC/RMT/3/2017 DATED 20.05.2017
Name of the Post : Scientific Assistant
Post Code : SA1

SYLLABUS – SKILL TEST

Qualification Requirement : First Class BSc. In Chemistry

1. Qualitative Analysis – Apparatus, reagents used, principle, reactions , method
2. Quantitative analysis-   Acid –base titrations- definitions, reagents required, principle, method, reactions, calculations
3. Testing pH, EC of samples- definition, Apparatus, reagents used, Principle, method
4. Preparation of standard solutions- preparation from stock solutions, - definitions, Apparatus needed, formulae, methodology, calculations
5. Identifications of lab items and their uses ,chemicals and Formulae

SYLLABUS – SKILL TEST

Qualification Requirement : First Class BSc. In Maths, Statistics, Computer Science

MATHEMATICS

1. Prove theorems on sequences, series, continuity, differentiation, Riemann integration with appropriate illustrations/graphs.
2. Solve the given problem using - Exact differential equations, linear differential equations, Bernoulli's differential equations, orthogonal trajectories as applicable.
3. Given the data sets calculate Rank of a matrix, Eigen values, Eigen vectors.

STATISTICS

1. Given data sets plot the histogram, pi chart, calculate univariate statistics such as mean, mode ,median, Standard deviation. Analyse and Explain
2. Given data sets calculate multivariate statistics such as correlation, covariance and regression based on two variables. Analyse and Explain
3. Prove theorems on probability and distribution theory.

COMPUTER SCIENCE

1. Given simple problems/ Algorithms, draw flowchart and write programmes, execute on computer and show results
2. Write simple programmes using data types, variables, operators, loops, functions, arrays, pointers
3. Explain various types of file operations and operating system environments
4. Identify and Show different Hardware units in Computer components like CPU, Memory, SMPS, IO slots and types, serial port, parallel port, USB etc in a PC , Peripherals and explain the functionality.
5. What is backup and significance of data and network security in computer environment

Name of the Post : Scientific Assistant

Post Code : SA3

SYLLABUS – SKILL TEST

Qualification Requirement : First Class BSc. In Maths, Physics, Computer Science

MATHEMATICS

1. Prove theorems on sequences, series, continuity, differentiation, Riemann integration with appropriate illustrations/graphs.
2. Solve the given problem using - Exact differential equations, linear differential equations, Bernoulli's differential equations, orthogonal trajectories as applicable.
3. Given the data sets calculate Rank of a matrix, Eigen values, Eigen vectors.

PHYSICS

1. Carryout experiments based on light and optics such as spectroscopy, usages of single or combination of lenses, calculating speed of light and explain
2. Carry out experiments based on absorption characteristics of matter using spectroscopy, laser spectrum, atmospheric absorption features and explain
3. Calculate series and parallel combination of R, L, C circuits
4. Carryout simple experiments- HW, FW and Bridge rectifier with filter using semiconductor devices such as diodes, transistors in combination with resisters and capacitors – test, validate results and explain.
5. Carryout experiments based on measurements such as time, simple harmonic motion, velocity etc. and explain

COMPUTER SCIENCE

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4. Identify and Show different Hardware units in Computer components like CPU, Memory, SMPS, IO slots and types, serial port, parallel port, USB etc in a PC , Peripherals and explain the functionality.
5. What is backup and significance of data and network security in computer environment