

GOKHALE MEMORIAL GIRLS' COLLEGE

1//1, HARISH MUKHERJEE ROAD, KOLKATA-700 020

Date: 07/06/18

Notice Inviting Quotations for Laboratory Equipments under RUSA **2.0 scheme**

Quotations are invited on an urgent basis for the following items under RUSA 2.0 scheme, by Saturday, 09/06/18 in soft copies to gokhalecollegekolkata@gmail.com.

Further, the hard copies of the quotations are to be positively sent to the College Office 2 by 12.00 noon on Monday, 11/06/18.

DEPARTMENT OF CHEMISTRY

SL. No.	Name of the Instrument	Quantity	Make & Specifications
1	Magnetic stirrer	3	REMI Model No.-2MLH (2 Ltr Stirrers with Hotplate)
2	Digital pH meter	2	Systronics (Model-335 with teflon coated glass electrode)
3	Digital Conductivitymeter	2	Systronics
4	Digital Potentiometer	2	Equiptronics with calomel, silver and platinum electrodes
5	Digital Spectrophotometer	2	Systronics Model-106, 166
6	Polarimeter	2	Eastern Instruments
7	Digital Polarimeter	2	Eastern Instruments
8	UV-visible Spectrophotometer with printer	1	Shimadzu
9	FTIR with printer	1	Perkin-Elmer
10	Boiling Point Instrument	2	Labtronics

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11	Oil-bath with thermostat for heating control	2	2 L capacity
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DEPARTMENT OF CLINICAL NUTRITION AND DIETETICS

1. Muffle furnace
2. Vacuum oven
3. Spectrophotometer
4. Refrigerator- 150 litres
5. Water bath

DEPARTMENT OF GEOGRAPHY

1. Mirror stereoscope
2. Laser Distance meter
3. Measuring Tape 30 Mts
4. Soil And Water analysis Kit
5. Prismatic Compass
6. Ranging Rod
7. Dumpy Level
8. Full set of Desktop Computers
9. G.P.S (Garmin ETREX-30X)
10. Metal Staff (4mts)
11. Generating Globe
12. Aerial Photographs
13. Theodolite
14. Abney level
15. Clinometers
16. Projectors
17. Colour Printer
18. Laptop
19. Rocks and Minerals
20. Satellite Imagery
21. Digital Camera
22. Steel Almirah with locker
23. Weather maps (All seasons)

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24. Planimeter
25. Rotameter
26. Weather station Instrument (Professional weather center
model:WMR200/WMR200A)
27. Refrigerator 50 litres(SANSUI)
28. Toposheet (Survey Of India, open series)
 - a. F45C4 (75 I/4)
 - b. F45C8 (73 I/8)
 - c. F45C12 (73 I/12)
 - d. F45I1 (75 J/1)
 - e. F45I5 (73 J/ 5)
 - f. F45I9 (73 J/ 9)
 - g. F45I2 (73 J/ 2)
 - h. F45I6 (73 J/ 6)
 - i. F45I10 (73 J/ 10).

DEPARTMENT OF MATHEMATICS

Required Softwares

1. MATLAB (current version)
2. MATHEMATICA (current version)
3. SAGEMATH (current version)

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DEPARTMENT OF PHYSICS

Full instrumental set-up of the following Experiments:-

Paper: PHS-A-CC-1-2-P

1. To determine the Moment of Inertia of a metallic cylinder / rectangular bar about an axis passing through the C.G. and to determine the Modulus of Rigidity of the suspension wire.
2. To determine the Moment of Inertia of a Flywheel.
3. To determine Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
4. Determination of Young's modulus of the material of a beam by the method of flexure.
5. To determine the elastic constants of a material by Searle's method.
6. To determine the value of g using Bar Pendulum.
7. To determine the height of a building using sextant.
8. Measurements of length (or diameter) using vernier caliper, screw gauge and traveling microscope.

Paper: PHS-A-CC-2-3-P

1. To determine an unknown Low Resistance using Potentiometer.
2. To determine an unknown Low Resistance using Carey Foster's Bridge.
3. To verify the Thevenin and Norton theorems.
4. To verify the Superposition, and Maximum power transfer theorems.
5. To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width.
6. To study the characteristics of a series RC Circuit.
7. Determination of horizontal component of the earth's magnetic field.

PHS-A-CC-2-4-P

1. To determine the frequency of an electric tuning fork by Melde's experiment and verify λ^2 vs T law.
2. To determine refractive index of the Material of a prism using sodium source.
3. To determine the dispersive power and Cauchy constants of the material of a prism using mercury source.
4. To determine wavelength of sodium light using Fresnel Biprism.
5. To determine wavelength of sodium light using Newton's Rings.
6. To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film.
7. Measurement of the spacing between the adjacent slits in a grating by measuring $\sin \theta$ vs λ graph of a certain order of grating spectra.

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Paper: PHS-A-CC-3-6-P

1. Verification of Stefan's law using a torch bulb.
2. Determination of the coefficient of thermal expansion of a metallic rod using an optical lever.
3. Calibration of a thermocouple by direct measurement of the thermo-emf using operational amplifier and the constants. [One end in ice and another end at water bath which to be heated.]
4. Calibration of a thermocouple by direct measurement of the thermo-emf using potentiometer and the constants. [One end in ice and another end at water bath which to be heated.]
5. Calibration of thermocouple [one end at room temperature other end in the oil bath] and determination of boiling point of water.
6. To determine the Coefficient of Thermal Conductivity of a bad conductor by Lee and Charlton's disc method.
7. To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).

Paper: PHS-A-CC-3-7-P

1. To design OR & AND logic with diode and resistor. Basic logic gates with Transistors. To verify the logics by any type of universal gate NAND/NOR.
2. Formation of different combinational problems by construction of Truth Table and implementation using basic logic gates.
3. Construction of half adder and full adder
4. Construction of half subtractor, full subtractor, adder-subtractor using full adder IC
5. Construction of FF circuits using NAND gates.
6. Construction of 4 bit shift registers (serial & parallel) using D type FF IC.
7. Construction of astable multivibrator using 555 Timer.

Paper: PHSA-CC-4-9-P

1. Measurement of Plank constant using LED
2. Determination of ionization potential of Mercury
3. Determination of e/m by using bar magnet.
4. To study the photoelectric effect: variation of photocurrent versus intensity and wavelength of light.
5. To determine the wavelength of H-alpha emission line of Hydrogen atom.
6. To show the tunneling effect in tunnel diode using I-V characteristics.
7. To determine (1) wavelength and (2) angular spread of He-Ne laser/ solid state laser using plane diffraction grating.

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Paper: PHS-A-CC-4-10-P

1. To study the reverse characteristics of Zener diode and study the load and line regulation.
2. To study the static characteristics of BJT in CE Configuration.
3. To design a CE transistor amplifier of a given gain (mid-gain) using voltage divider bias
4. To study the frequency response of the BJT amplifier in CE mode.
5. To study the static characteristics of FET.
6. To study OPAMP - inverting amplifier, non inverting amplifier, adder, subtractor, comparator, integrator, differentiator.
7. To design a Wien bridge oscillator for given frequency using an op-amp.

Paper: PHS-A-CC-5-12-P

1. To study PE hysteresis of ferroelectric crystal.
2. To study BH hysteresis of ferromagnetic material.
3. Measurement of susceptibility of paramagnetic solution by Quink"s tube method.
4. Measurement of magnetic susceptibility of solids.
5. Determination of variation of dielectric constant with frequency.
6. Measurement of hall voltage by four probe method.
7. To study temperature coefficient of a semiconductor (NTC thermistor).

Paper: PHS-A-CC-6-13-P

1. To determine Brewster's angle for air-glass interface using a prism.
2. To study Fresnel's law by the reflection on the surface of a prism.
3. To verify the Malus law using a pair of polaroids.
4. To study the specific rotation of optically active solution using polarimeter.
5. Determination of wavelength and velocity of ultrasonic waves in a liquid (kerosene, Xylene etc).
6. To analyze elliptically polarized light by using Babinet compensator.
7. To determine dispersive power and resolving power of a plane diffraction grating.

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DEPARTMENT OF PSYCHOLOGY

Sl No.	Item	Make/ Brand
1	Rescorder	Computer Services & Progressive Scientific Company
2	Pneumograph	Inco
3	Responscope	Sumon's Responscope
4	Wechsler Abbreviated Scale of Intelligence (2nd Edition) (WASI II) Indian norms	Pearson Education
5	Sixteen Personality Factors Questionnaire (16 PF)	Cattell (2001). In Dorfman W.I., Hersen M (Eds). Understanding Psychological Assessment. Perspectives on Individual Differences. Springer, Bostan M.A.
6	Word Association Test	Kiser (1980) Jung's Word Association Test. Response, Norms and Patterns of Disturbances.
7	Indian Gender Role Identity Scale	Basu, J 2010. Development of The Indian Gender Role Identity Scale (IGRIS). Psychometric Properties and Applications. Journal of Indian Academy of Applied Psychology, 36,25-34.
8	Coping Scale	Lazarus and Folkman 1984. Stress Appraisal and Coping. New York Springer Publishing Company.
9	Coping Check List	Rao, Subhakrishna and Prabhu,1998. Development of a Coping Check List – A Preliminary Report. Indian Journal of Psychiatry, 31(2), 128-133.
10	General Health Questionnaire (GHQ 28)	A. Goldberg and Hiller, 1979. A Scaled Version of The General Health Questionnaire. Psychological Medicine, 9, 136-146. B. Goldberg and Williams, 1988. The User's Guide to the General Health Questionnaire. Windsor: NFER-Nelson Publishing Co.

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11	State-Trait Anger Expression Inventory	A. State-Trait Anger Expression Inventory. Professional Manual. Centre for research in behavioural medicine and health psychology. University of South Florida. Tampa, Florida. B. Spielberger CD 1996. PAR Psychological Assessment Resources Inc.
12	Parent Child Relationship Scale	Rao 1989. National Psychological Corporation.
13	Emotional Intelligence Scale	Hyde, Pete & Dear (2002), Vedanta Publication, Lucknow.
14	Work Motivation Questionnaire	Agrawal (1988). Agra, National Psychological Corporation.
15	P.G.I. General Well Being Scale	Verma & Verma (1989), Lucknow; Ankur Psychological Agency.
16	Career Maturity Inventory	Crites (1973A). Monterey; Mc Graw Hill.
17	Entrepreneurship Motivation Scale	Vijaya and Kamalabhan (1998); The Journal of Entrepreneurship, VII-
18	Adult Hope Scale	Snyder et al (1991). The Will and the Ways: Development and Validation of an Individual Differences Measure of Hope. Journal of Personality and Social Psychology. 60, 570-585.
19	Family Environment Scale	Bhatia and Chaddha (1993), Ankur Psychological Agency; Lucknow.
20	Achievement Motivation (nA ch) Scale	Deo and Mohan (1990), National Psychological Corporation.

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