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**Enquiry no. PHY/OPTICS/SAR/CONS/1**

**Enquiry date: 21.5.2012**

**Closing date: 31.5.2012**

**Sealed quotations should reach the undersigned latest by 4.00 pm on 31<sup>st</sup> May, 2012 for the following consumable items:**

<b>S. No.</b>	<b>Description</b>	<b>Quantity</b>
1.	Linear Polarizer with mount	30
2	Quarter wave plate	15
3	Half-wave plate	15
4.	Prism	10
5.	Neutral Density Filter set	12
6.	Plane Mirrors	12
7	Glan-Taylor polarizer	15
8	Cylindrical cell	15
9	Diffraction grating	15

The above-mentioned consumables should conform to the following specifications:

**1. Linear Polarizer**

<b>Parameter</b>	<b>Required specification</b>
Material for linear polarizer	Dichroic film with AR coated N-BK7 protective window
Transmittance for unpolarized light	More than 30 %
Spectral Range	400-700 nm
Extinction ratio	5000:1 or better
Size	at least 0.5 inch dia
Type	Mounted on a rotating circular scale. graduated 0-360 deg with minimum 1 deg resolution – attached to a post that can be fixed to a bread board

## 2. Quarter wave plate (QWP)

## 3. Half-wave plate (HWP):

Material for QWP and HWP	Crystalline quartz
Retardance accuracy	$\lambda/300$
Spectral Range	400-700 nm
Clear aperture	at least 10 mm
Type	Mounted on a rotating circular scale. graduated 0-360 deg with minimum 1 deg resolution – attached to a post that can be fixed to a bread board

## 4. Prism:

Parameter	Required specifications
Type	Equilateral
Material	N-BK7 or F2
Size	1 inch on every edge
Effective Aperture	>85%
Surface Flatness	$\lambda/4$
Protective Chamfer	45°
AR Coating	Optional or on faces
Dimensional Tolerance	+0.0, -0.2 mm
Angle Tolerance	±3 arc min
Surface Quality	60 - 40 scratch-dig

## 5. Neutral Density Filters Set:

Parameter	Required specifications
Material	NBK-7
Surface Quality	60 - 40 scratch dig
Size	At least 1 inch dia or 1 inch square
Dimensional Tolerance	+0.00, -0.2 mm
Thickness	2 ± 0.2 mm
Surface Flatness	$\lambda / 4$
Parallelism	≤ 1 arc min
Dimension	Circular with 1 inch dia
Optical Densities	0.1, 0.2, 0.3, 0.4, 0.5, 0.7, 1, 1.5, 2, 2.5, 3, and 4

## 6. Plane Mirrors:

Parameter	Required specifications
Material	Borofloat
Clear Aperture	>90 %
Reflectivity	>95%
Diameter	1 inch or more
Thickness	± 0.1 mm
Surface Quality	60 – 40
Surface Flatness	$\lambda / 4$

Coating	Silver
Bevel	0.2 mm x 45 °
Type	Circular, mounted

### 7. Glan-Taylor polarizer

Parameter	Required specifications
Material	Low-scatter natural calcite
Aperture	5 mm x 5 mm
Extinction ratio	100,000:1
Transmission Wavelength range	350 nm to 1500 nm
AR Coating	Optional
Surface Quality	High for input / output faces and side ports

### 8. Cylindrical cell for holding liquids

Parameter	Required specifications
Material	Glass
Length of cylinder	7 to 10 cm
Diameter of cylinder	At least 15 mm
Windows	Parallel, at either end, made of glass, sealed
Nozzle for filling liquid	From the top

### 9. Diffraction grating

Parameter	Required specifications
Material	Glass
Type	Transmission for visible
Grooves	4000 lines per inch or better
size	At least 0.5 inch square

#### Terms and conditions:

Quotations should have a validity of a minimum of 60 days.

All the parts should be replaced free of cost in case of any damage in transit / deviation from specifications.

Maximum possible educational discount should be specified on the quotation since all are for teaching purposes.

Quotations are required in duplicate in a sealed envelope with enquiry number mentioned on the envelope.

The delivery period should be within 40 days of placing the purchase order.

The rate offered should be F.O.R Kanpur for firms located outside Kanpur and free delivery at the Institute premises for local firms.

Institute is exempted from payment of E.Duty under notification no.10/97

Institute is entitled to avail concession rate of sales tax as admissible under Sub-sec 5 of Sec 8 C.S.T Act 1956 applicable to Educational/Research institution in inter-state purchase.