



Sri Lakshmi Narayana Institute of Medical Sciences

Annexure 1

Date 20/12/2021

From
Prof.D.Baba, MS
Professor and Head,
Ophthalmology,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

To
The Dean,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Permission to conduct value-added course: FUNDUS EXAMINATION

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: FUNDUS EXAMINATION on JAN-2022 . We solicit your kind permission for the same.

Kind Regards

PROF.D.BABA, MS
HOD, OPHTHALMOLOGY

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean:

The HOD:

The Expert:

The committee has discussed about the course and is approved.

DEAN

Prof.K.BALAGURUNATHAN,MS
(General surgeon)
SRI LAKSHMI NARAYANA
INSTITUTE OF MEDICAL SCIENCES
OSUDIPUDI, PUDUCHERRY

Subject Expert

PROFESSOR & HOD
DEPARTMENT OF OPHTHALMOLOGY,
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
PUDUCHERRY-605 502.

VALUE ADDED COURSE**Fundus Examination****4. List of Students Enrolled JAN- 2022**

S:NO	Reg. No.	NAME OF THE STUDENT	SIGNATURE
1	U17MB251	AANNIE SHERLINE RAJAM.L	AANNIE
2	U17MB252	AARTHISEKAR . D	AARTHISEKAR
3	U17MB253	AARYA R BABU	AARYA
4	U17MB254	ABHIJITH.K	Abhijith
5	U17MB255	ABHISHEIK.J	Abhishek
6	U17MB256	ABHISHEK KUMAR VISHWAKARMA	Abhishek
7	U17MB257	ADITYA RAI	ADITYA
8	U17MB258	ADWIZA RAI	ADWIZA
9	U17MB259	AFZAN.M	Afzan
10	U17MB260	AGARWAL RIDHAM RAJESHBHAI	Agarwal
11	U17MB261	AISWARYA.S.NAIR	Aiswarya
12	U17MB262	AKANKSHA CHOURASIA	Akanksha
13	U17MB263	AKASH KELOTH	Akash
14	U17MB264	ALLUVALA ABHILASH	Alluvala
15	U17MB265	AMIRTHA RAJENDRA SUVETHAN D	Amirtha
16	U17MB266	ANBUMANI PARYMOHAN	Anbumani
17	U17MB267	ANIKET SINHA	Aniket
18	U17MB268	ANJALI GORAI	Anjali
19	U17MB269	ANJU RAJ	Anju
20	U17MB270	ANJU RAMESH K.V.	Anjuramesh
21	U17MB271	ANNAPOORANI.L	Annapoorna
22	U17MB272	ANUSUYA.N	Anusuya
23	U17MB273	APOORVA MALL	Apoorva
24	U17MB274	ASHISH RANJAN	Ashish
25	U17MB275	ASWIN KUMAR.G	Aswin



OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.

[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affiliated to Bharath University, Chennai - TN]

Ref. No. SLIMS/Dean Off/VAC / OPH07

Date: 20.12.2021

From

The Dean
Sri Lakshmi Narayana Institute of Medical sciences,
Pondicherry – 605502

To

The Registrar,
Bharath Institute of Higher Education and Research,
Chennai - 600073.

Respected Sir

Sub: Request for permission and approval of Syllabus for certificate course (Value Added course) for the academic year 2021-2022 - Reg
Ref: Requesting letter received from Departments

With reference to the above, herewith forwarding the proposed list of Value-added courses for necessary permission and approval of syllabus to conduct the same.

1. FUNDUS EXAMINATION
2. GLAUCOMA

This is for your kind information and needful action.

Thanking you

Yours faithfully

[DEAN]

DEAN

Prof.K.BALAGURUNATHAN.M.S
(General surgeon)
SRI LAKSHMI NARAYANA
INSTITUTE OF MEDICAL SCIENCES
OSUDU PONDICHERRY

Encl's:

1. Requesting letter received from department
2. Syllabus of the course
3. Details of faculty handling course

**Sri Lakshmi Narayana Institute of Medical Sciences,
Puducherry**

VALUE ADDED COURSE –

1. FUNDUS EXAMINATION
2. GLAUCOMA

COURSE CO-ORDINATOR DETAILS

Faculty Name: Prof.D.Baba, MS

Email ID: ophthalmologyprof@gmail.com

Mobile number: 8585485988



Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)

Ref. No. BHIER/ VAC / OPH07

Date: 24.12.2021

From

The Registrar,
Bharath Institute of Higher Education and Research,
Chennai - 600073.

To

The Dean
Sri Lakshmi Narayana Institute of Medical sciences,
Pondicherry – 605502

Sir / Madam,

Sub: Approval of Syllabus to conduct certificate course (Value Added course)

Ref: Ref. No. SLIMS/Dean Off/VAC /OPH07 Dated: 20.12.2021

With reference to the above, it is to inform that the proposal submitted to conduct Value Added Course has been accepted and approved by BIHER, council meeting. List of the VAC are mentioned below for the academic year 2021– 2022. The abstract of the VAC course completion detail should be submitted to the Registrar office.

1. FUNDUS EXAMINATION
2. GLAUCOMA

Thanking you

Yours faithfully


REGISTRAR



OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.

[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affiliated to Bharath University, Chennai - TN]

Circular

25.12.2021

Sub: Organising Value-added Course: FUNDUS EXAMINATION

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research** is organizing "FUNDUS EXAMINATION". The course content and registration form is enclosed below."

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before 30TH DEC 2021. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

DEAN

Prof.K.BALAGURUNATHAN,M.S
(General surgeon)
SRI LAKSHMI NARAYANA
INSTITUTE OF MEDICAL SCIENCES
OSUDU PONDICHERRY

Encl: Copy of Course content

VALUE ADDED COURSE

1. Name of the programme & Code

Fundus Examination

2. Duration & Period

30 hrs & Jan -2022

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

Jan -2022

8. Year of discontinuation: 2022

9. Summary report of each program year-wise

Value Added Course- Jan -2022					
Sl. No	Course Code	Course Name	Resource Persons	Target Students	Strength & Year
1	OPH07	Fundus Examination	Prof.K.Rathnakumar, M.S, D.O,	30	2022

10. Course Feed Back

Enclosed as Annexure- V


Prof.K.Rathnakumar, M.S, D.O,

RESOURCE PERSON


Prof. D. Baba, M.S,

COORDINATOR

DEPARTMENT OF OPHTHALMOLOGY,
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
PUDUCHERRY-605 002.

Annexure 2 – Course Proposal

Course Title: FUNDUS EXAMINATION

Course Objective:

1. Evaluation of ocular fundus.
2. Structures of a normal fundus
3. Direct ophthalmoscopy
4. Indirect ophthalmoscopy
5. Slit lamp biomicroscopy with 90D / 78D
6. Diabetic retinopathy changes in fundus
7. Age related macular degeneration
8. Retinal detachment

Course Outcome: On successful completion of the course the students will be able to understand the uses of ophthalmoscopes (direct & indirect), make diagrams of fundus pathologies with color coding and understand various pathological changes seen in ocular fundus.

Course Audience: MBBS UNDERGRADUATES

Course Coordinator: PROF.D.BABA, MS,

Course Faculties with Qualification and Designation:

1. Prof.D.Baba, MS, - HOD Ophthalmology
2. Prof.K.Rathnakumar, MS,DO, - Professor Ophthalmology

Course Curriculum/Topics with schedule (Min of 30 hours)

SINo	Date	Topic	Time	Hours
1.	18/1/2022	Evaluation of ocular fundus.	4-6PM	2
2.	20/1/2022	Structures of a normal fundus	4-7PM	3
3.	22/1/2022	Structures of a normal fundus	4-6PM	3
4.	25/1/2022	Direct ophthalmoscopy	4-6PM	2
5.	29/1/2022	Direct ophthalmoscopy	4-7PM	3
6.	10/2/2022	Indirect ophthalmoscopy	4-7PM	3
7.	13/2/2022	Slit lamp biomicroscopy with 90D / 78D	4-7PM	3
8.	15/2/2022	Slit lamp biomicroscopy with 90D	4-6PM	2

		/ 78D		
9.	17/2/2022	Diabetic retinopathy changes in fundus	4-6PM	2
10.	20/2/2022	Diabetic retinopathy changes in fundus	4-7PM	3
11.	21/2/2022	Age related macular degeneration	4-6PM	2
12.	25/2/2022	Retinal detachment	4-6PM	2
			TOTAL HOURS	30

REFERENCE BOOKS: (Minimum 2)

1. JACK J KANSKI clinical ophthalmology a systemic approach-6th edition.
2. PARSON'S Diseases of the eye – 19th edition

FUNDUS EXAMINATION

This is essential to diagnose the diseases of the vitreous, optic nerve head, retina and choroid.

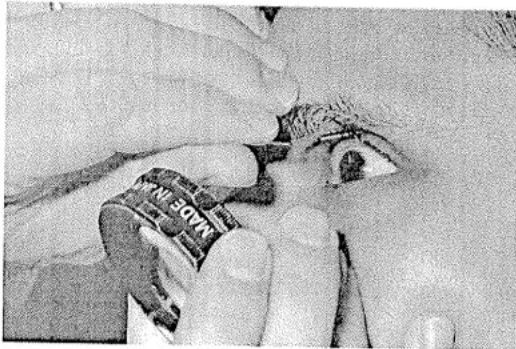
For thorough examination of the fundus pupils should be dilated with 5 per cent phenylephrine and/or 1 per cent tropicamide eye drops.

The fundus examination can be accomplished by ophthalmoscopy.

Binocular indirect ophthalmoscopy:

BIO allows retinal visualization through a greater degree of media opacity than slit lamp biomicroscopy, and readily facilitates scleral indentation.

Light is transmitted from the headset to the fundus through a condensing lens held at the focal point of the eye, providing an inverted and laterally reversed image that is observed through a stereoscopic viewing system



Observations during fundus examination

During fundus examination following observations should be made:

1. *Media*. Normally the ocular media is transparent. Opacities in the media are best diagnosed by distant direct ophthalmoscopy, where the opacities look black against the red glow.

Causes of opacities in media are: corneal opacity, lenticular opacity, vitreous opacities (may be exudates, haemorrhage, degeneration, foreign bodies and vitreous membranes).

2. Optic disc

Size (diameter) of the optic disc is 1.5 mm which looks roughly 15 times magnified during direct ophthalmoscopy. Disc is slightly smaller in hypermetropes and larger in myopes.

Shape of the normal disc is circular. In very high astigmatism, disc looks oblong.

Margins of the disc are well defined in normal cases. Blurring of the margins may be seen in papilloedema, papillitis, postneuritic optic atrophy and in the presence of opaque nerve fibres.

Colour.

Normal disc is pinkish with central pallor area. (i) Hyperaemia of disc is seen in papilloedema and papillitis, (ii) Paler disc is a sign of partial optic atrophy, (iii) Chalky-white disc is seen in primary optic atrophy, (iv) Yellow-waxy disc is typical of consecutive optic atrophy.

Cup-disc ratio.

Normal cup disc ratio is 0.3.

(i) Large cup may be physiological or glaucomatous.
(ii) Cup becomes full in papilloedema and papillitis.

Splinter haemorrhages on the disc may be seen in primary open angle glaucoma and papilloedema.

Neovascularization of the disc may occur in diabetic retinopathy and sickle-cell retinopathy.

Opticociliary shunt is a sign of orbital meningioma.

Peripapillary crescent is seen in myopia.

Kesten-Baum index refers to ratio of large blood vessels versus small blood vessels on the disc. Normal ratio is 4:16. This ratio is decreased in patients with optic atrophy.

3. Macula. The macula is situated at the posterior pole with its centre (foveola) being about 2 disc diameters lateral to temporal margin of disc. Normal macula is slightly darker than the surrounding retina. Its centre imparts a bright reflex (foveal reflex). Following abnormalities may be seen on the macula:

Macular hole. It looks red in colour with punchedout margins.

Macular haemorrhage is red and round.

_ *Cherry red spot* is seen in central retinal artery occlusion, Tay-Sach's disease, Niemann-Pick's disease, Gaucher's disease and Berlin's oedema.

_ *Macular oedema* may occur due to trauma, intraocular operations, uveitis and diabetic maculopathy.

_ *Pigmentary disturbances* may be seen after trauma, solar burn, age-related macular degeneration (ARMD), central chorioretinitis and chloroquine toxicity.

_ *Hard exudates*. These may be seen in hypertensive retinopathy and exudative diabetic maculopathy.

_ *Macular scarring*. It may occur following trauma and disciform macular degeneration.

4. Retinal blood vessels. Normal arterioles are bright red in colour and veins are purplish with a caliber ratio of 2: 3. Following abnormalities may be detected:

_ *Narrowing of arterioles* is seen in hypertensive retinopathy, arteriosclerosis, and central retinal artery occlusion.

_ *Tortuosity of veins* occurs in diabetes mellitus, central retinal vein occlusion and blood dyscrasias.

_ *Sheathing of vessels* may be seen in periphlebitis retinae, and hypertensive retinopathy.

_ *Vascular pulsations*. *Venous pulsations* may be seen at or near the optic disc in 10-20% of normal people and can be made manifest by increasing the intraocular pressure by slight pressure with the finger on the eyeball. Venous pulsations are conspicuously absent in papilloedema. *Arterial pulsations* are never seen normally and are always pathological. The true arterial pulsations may be noticed in patients with aortic regurgitation, aortic aneurysm and exophthalmic goitre. True arterial pulsations are not limited to disc. While a pressure arterial pulse which is seen in patients with very high IOP or very low blood pressure is limited to the optic disc.

5. General background.

Normally the general background of fundus is pinkish red in colour. Physiological variations include dark red background in black races and tessellated or tigroid fundus due to excessive pigment in the choroid. Following abnormal findings may be seen in various pathological states:

_ *Superficial retinal haemorrhage* may be found in hypertension, diabetes, trauma, venous occlusions, and blood dyscrasias.

_ *Deep retinal haemorrhages* are typically seen in diabetic retinopathy.

_ *Soft exudates (cotton wool spots)* appear as

whitish fluffy spots with indistinct margins. These may occur in hypertensive retinopathy, toxæmic retinopathy of pregnancy, diabetic retinopathy, anaemias and collagen disorders like DLE, PAN and scleroderma.

Hard exudates are small, discrete yellowish, waxy areas with crenated margins. Common causes are diabetic retinopathy, hypertensive retinopathy, Coats' disease and circinate retinopathy.

Colloid bodies also called *drusens* occur as numerous minute, whitish, refractile spots with pigmented margins, mainly involving the posterior pole. They are seen in senile macular degeneration and Doyme's honeycomb dystrophy.

Pigmentary disturbances may be seen in tapetoretinal dystrophies e.g., retinitis pigmentosa and healed chorioretinitis.

Microaneurysms are seen as multiple tiny dotlike dilatations along the venous end of capillaries. They are commonly found in diabetic retinopathy. Other causes include hypertensive retinopathy, retinal vein occlusions, Eales' disease and sickle cell disease.

Neovascularization of retina occurs in hypoxic states like diabetic retinopathy, Eales' disease, sickle-cell retinopathy, and following central retinal vein occlusion.

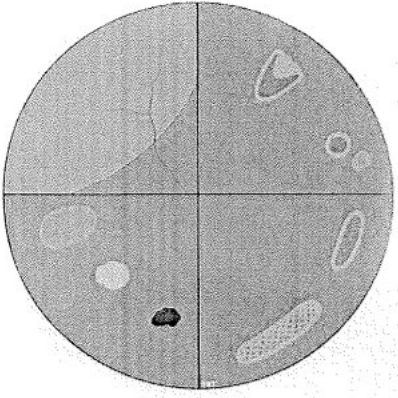
Tumours of fundus include retinoblastoma, astrocytoma and melanomas.

Peripheral retinal degenerations include lattice degeneration, paving stone degeneration, white areas with and without pressure.

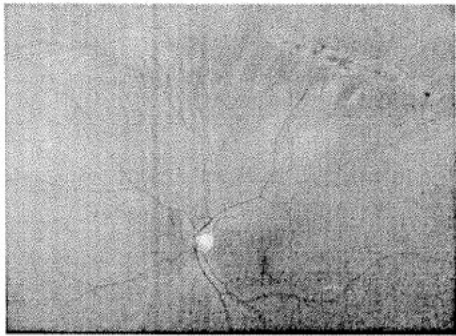
Retinal holes are seen as punched out red areas with or without operculum. These may be round or horse-shoe in shape.

Proliferative retinopathy is seen as disorganized mass of fibrovascular tissue in patients with proliferative diabetic retinopathy, sickle cell retinopathy, following trauma and in Eales' disease.

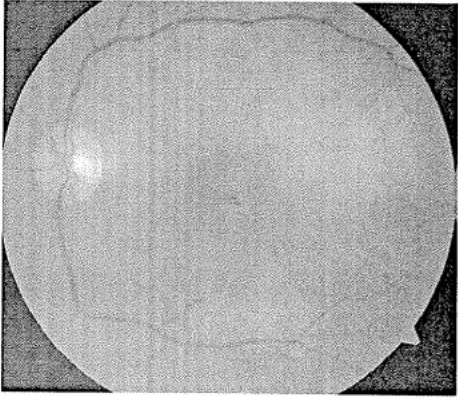
Retinal detachment. Retina looks grey, raised and folded.



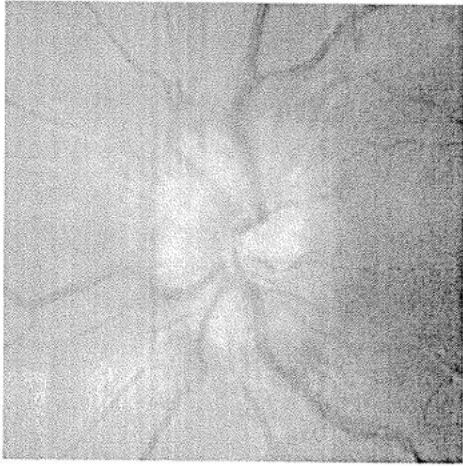
RETINAL DETACHMENT



LATTICE DEGENERATION



NORMAL FUNDUS




PAPILLEDEMA

26	U17MB276	ATHUL S PRAMOD	
27	U17MB277	ATHUL SUBHASH	
28	U17MB278	BATCHU JASWANTH BABA	
29	U17MB279	BHAGANAGARAPU BHARGAV SEETA RAM	
30	U17MB280	BHARGAV JYOTI BORAH	


Prof.K.Rathnakmar MS,DO

RESOURCE PERSON


Prof.D.Baba, MS-HOD

COORDINATOR
PROFESSOR & HOD
DEPARTMENT OF OPHTHALMOLOGY,
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
PUDUCHERRY-605 502.



L. Aranne
U17MB251

**SRI LAKSHMI NARAYANA INSTITUTE OF HIGHER EDUCATION
AND RESEARCH**

6

Annexure - IV

FUNDUS EXAMINATION

MULTIPLE CHOICE QUESTIONS

Course Code: OPH07

I. ANSWER ALL THE QUESTIONS

1. Fundus examination is done by all except

- a. +90D
- b. IDO
- c. Schiottz tonometer
- d. DO



2. Structures seen in fundus includes

- a. Cornea
- b. Conjunctiva
- c. Iris
- d. Retina



3. On distance direct ophthalmoscope is done at distance of

- a. 10cm
- b. 50cm
- c. 25cm
- d. 60cm



4. Colour of normal fundus glow

- a. Yellow
- b. Red
- c. Green
- d. White





**SRI LAKSHMI NARAYANA INSTITUTE OF HIGHER EDUCATION
AND RESEARCH**

5. Retinal detachment – fundus examination show

a. Grey reflex

b. White reflex

c. Red reflex

d. Blue reflex



6. Normal fundus structures seen includes all except

a. Optic disc

b. Retinal vessels

c. Macula

d. Ciliary body



7. IDO- power of lens used

a. +20D

b. +90D

c. +75D

d. +60D






Sri Lakshmi Narayana Institute of Medical Sciences


Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)



CERTIFICATE OF MERIT

This is to certify that AANNIE SHERLINE RAJAM.L (U17MB251) has actively participated in the Value Added Course on FUNDUS EXAMINATION held during JAN 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.


Prof. K. Rathnakumar, MS, DO,
RESOURCE PERSON


Prof. D. Baba, MS,
COORDINATOR



Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research


(Deemed to be University under section 3 of the UGC Act 1956)



CERTIFICATE OF MERIT

This is to certify that AARTHISEKAR . D (U17MB252) has actively participated in the Value Added Course on FUNDUS EXAMINATION held during JAN 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.


Prof.K.Rathnakumar, MS, DO,
RESOURCE PERSON


Prof.D.Baba, MS,
COORDINATOR

Student Feedback Form

Course Name: **FUNDUS EXAMINATION**

Subject Code: **OPH07**

Name of Student: _____ Roll No.: _____

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear				✓	
2	Course contents met with your expectations					✓
3	Lecturer sequence was well planned				✓	
4	Lectures were clear and easy to understand					✓
5	Teaching aids were effective				✓	
6	Instructors encourage interaction and were helpful					✓
7	The level of the course				✓	
8	Overall rating of the course	1	2	3	4	5

* Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory

Suggestions if any:

Date:

Aankhe
Signature

Annexure 5

Date : 30/03/2022

From
Prof.D.Baba, MS,
Professor and Head,
Ophthalmology,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Through Proper Channel

To
The Dean,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Completion of value-added course: FUNDUS EXAMINATION

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled: **FUNDUS EXAMINATION** for 30students in JAN-2022. We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

Prof.D.Baba, MS

HOD ,Ophthalmology

Encl: Certificates

Photographs

