

**C-5670**

**Sub. Code**

**91411/12**

**Common for all U.G. B.Sc./B.B.A. DEGREE  
EXAMINATION, APRIL 2022**

**First Year/First Semester**

**English**

**Part II – ENGLISH PROSE AND COMMUNICATION  
SKILLS**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is vocational education?
2. What is it that Indira Gandhi does not demand?
3. What did Stevenson ride on?
4. What was the boy's reaction to the punishment?
5. What was remarkable about Ernest Thompson Seton's *Wild Animals I have Known*?
6. What are the tree visions that Sarojini Naidu talks of?
7. He \_\_\_\_\_ my uncle yesterday. (Use correct form of verb)
8. Define Noun.
9. Seenu is a boy \_\_\_\_\_ poor family. (use appropriate preposition)
10. \_\_\_\_\_ you like to have tea or coffee? (Use correct auxiliaries)

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write a short note on how to attain Excellence I education emphasized by Livingstone.

Or

- (b) Substantiate Indira Gandhi's view that the youth are the backbone of India.

12. (a) What is the usefulness of forming habits?

Or

- (b) How does the teacher try to repair the damage done and with what result?

13. (a) What books did Margaret Atwood enjoy reading?

Or

- (b) What does Sarojini Naidu say about the vision of patriotism?

14. (a) Write a short note on types of sentences.

Or

- (b) Fill in the blanks using Present Perfect Continuous Tense:

- (i) The \_\_\_\_\_ (work) all day.  
(ii) He eyes were red because she \_\_\_\_\_ (cry).  
(iii) She \_\_\_\_\_ ( sing) upto that morning.  
(iv) They \_\_\_\_\_ (wait) for her since 8 0' clock.  
(v) Mani \_\_\_\_\_ (read) this book for the past three hours.

15. (a) Write the correct sentence pattern.
- (i) I finished the work.
  - (ii) She worked in a reputed company.
  - (iii) Our headmaster Sideline was a lending library.
  - (iv) They made David Chairman of the Rotary Club.
  - (v) We wish you happy new year.

Or

- (b) Fill in the blanks using appropriate Prepositions:
- (i) He came \_\_\_\_\_ the office \_\_\_\_\_ a big hurry.
  - (ii) We drove \_\_\_\_\_ the store.
  - (iii) Four armed men held \_\_\_\_\_ the bank.
  - (iv) We finally lived \_\_\_\_\_ that incident.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) What, according to Livingstone, are the essentials of education?

Or

- (b) Write an essay on personality of Indira Gandhi as revealed in her speeches.

17. (a) What are Gardiner's views on the desirability or otherwise of forming habits?

Or

- (b) Write an essay in 500 words about the relationship between the rich student and the poor teacher.

18. (a) Write an essay on present tenses.

Or

(b) Fill in the blanks with correct preposition.

Nehru was called \_\_\_\_\_ to say a few words  
\_\_\_\_\_ the occasion \_\_\_\_\_ the  
assassination \_\_\_\_\_ Gandhi \_\_\_\_\_ an  
utter sense \_\_\_\_\_ shame, Nehru expressed  
his regret \_\_\_\_\_ the failure out country  
\_\_\_\_\_ give protection \_\_\_\_\_ the life  
\_\_\_\_\_ this great man, as well as that  
\_\_\_\_\_ many an innocent man, woman and  
child.

\_\_\_\_\_

**C-5674**

**Sub. Code**

**91421/22**

**B.Sc./B.B.A. DEGREE EXAMINATION, APRIL 2022**

**Second Year/Second Semester**

**Common for all UG Degree Courses**

**Part II – ENGLISH - PROSE, EXTENSIVE READING  
AND COMMUNICATION SKILLS**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Kalam is proud of having worked with three great men. Who are they?
2. What kind of society did we have in the pre-war period?
3. What are the two ways in which science benefits man?
4. Why does Nehru regard Gandhi as the sun?
5. What experiences do students in schools and colleges have in arguing?
6. What was the agreement between Bob and Jimmy twenty years before, when they parted?
7. How did the Quick man explain it away?

8. What did the stranger want to know?
9. What are the types of adjective clause?
10. What is Sub-ordinate Conjunctions? Give example.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What does Kalam say about the passivity of Indians?

Or

- (b) What are the contradictory views of Plato on the artist's role in society?

12. (a) How does Nehru reconcile himself with Gandhi's death?

Or

- (b) What is Lynd's conversion to socialism and nationalism?

13. (a) How does the true friendship reflect in *After Twenty Years*?

Or

- (b) How did the conjuror take his revenge on the Quick Man?

14. (a) How did the father test the skills of his sons?

Or

- (b) How do Phrase help in making of Simple sentence?

15. (a) Jot down the changes/ rules while transforming the Exclamatory sentences of Direct speech into Indirect speech.

Or

- (b) Write a paragraph on the 'Formation of Positive and Superlative Degrees'.

**Part C** (3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on Kalam's three visions.

Or

- (b) What does Holt say about ballet training? What does he deduce from it?

17. (a) How are the two friends contrasted?

Or

- (b) Elucidate how the conjuror's tricks and the Quick Man's deflationary comments for it.

18. (a) What are the kinds of Conjunctions? Explain in detail.

Or

- (b) What are the Degrees of comparison? Explain with examples.

**C-7024**

**Sub. Code**

**31**

**COMMON FOR ALL U.G. DEGREE COURSES  
EXAMINATION, NOVEMBER 2022**

**Third Semester/Third Year**

**Part II — ENGLISH**

**COMMUNICATIVE SKILLS**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is meant by non-verbal communication?
2. How do you manage noise situation on your presentation?
3. Frame Question for the following sentences.
  - (a) I would like to become an investigating agent.
  - (b) He had worked here for the past ten years.
4. Define Homophones.
5. Give two example for wrong position of adverb.
6. What is the main use of interjections?
7. What are called consonants?
8. What is meant by rising intonation?
9. What are the benefits of skimming?
10. Mention any two mechanics of good handwriting.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a paragraph on non-verbal communication.

Or

- (b) What are the ways of challenging the barriers of communication?

12. (a) Write a short note on homophones with examples.

Or

- (b) Change the following active sentences into passive voice.

(i) I did not beat her.

(ii) I will never forget this experience.

(iii) Mother made a cake yesterday.

(iv) The tiger was chasing the deer.

(v) She has written a novel.

13. (a) Write a note on wrong position of adverbs.

Or

- (b) Write in short on some confused use of adjectives.

14. (a) Write a note on primary stress with proper examples.

Or

- (b) Describe the general use of intonation.

15. (a) What are the uses of silent reading?

Or

(b) What is the role of SQ3R in communication?

**Part C** (3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail on effective ways of communication.

Or

(b) Write an essay on barriers to communication and effective ways to overcome the barriers.

17. (a) Write briefly on the following :

(i) Phrasal verbs

(ii) Conditional clause.

Or

(b) Write an essay on common confusions of parts of speech.

18. (a) Write an essay on the types of reading and developing reading strategies.

Or

(b) Explain briefly on mechanics of good handwriting.

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**C-7025**

**Sub. Code**

**41**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Part II — English**

**EMPLOYABILITY SKILLS**

**(Common for all UG Degree Courses)**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** following questions.

1. How do you introduce a person in a public meeting?
2. What is meant by head to foot appearance?
3. Why do we write letters?
4. What are the basic elements for writing job application?
5. What are the different types of greetings?
6. Define portfolio.
7. What is meant by oral composition?
8. What are the three main parts of a composition?
9. Define kinesics.
10. What are the technical elements for using video aids for communication?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write in short on telephonic etiquettes.

Or

- (b) Describe in short on head to foot appearance.

12. (a) What are the important aspects on resume writing?

Or

- (b) Write a letter to the editor about your street road's poor condition.

13. (a) Write in short on merits of e-mail.

Or

- (b) Write in short on developing topic sentences into paragraph.

14. (a) Write briefly on written composition.

Or

- (b) Write a paragraph on 'e-waste'.

15. (a) Write in short on gesture.

Or

- (b) Describe in short on the uses of visual aids.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on interview techniques and head to foot appearance while attending interview.

Or

- (b) Write a letter to the manager for the post of sales officer along with your resume.

17. (a) Write an essay on preparing portfolios and its various types.

Or

- (b) Write a review for two books that you recently read.

18. (a) Read the passage below and then answer the following questions.

One day, my father talked to his phone for a long time his airtime got used up before he could end his talk. He was conversing with his workmate, Mr. Obadiya. He decided to send me to buy more airtime.

Using My bicycle, I rode as fast as a horse. I returned within ten minutes with airtime. When I reached home, I found my father busy listening to the news on radio. He was so attentive that he did not want any disturbance. He therefore, gave me the mobile phone to load the airtime for him.

I was excited because I was going to do so for the first time. I got the airtime card and scratched it. Since I did not know what to do after scratching, I opened the phone. Then I took it to my father thinking I had done the right thing.

My father immediately tried to call his friend. He dialed repeatedly but the call could not go through. "Have you loaded the airtime"? he asked me. I responded happily that I had loaded it. As he removed the battery, the airtime card dropped on the floor. "Oh my son! you did not know how to load airtime !" he laughed. I was disappointed that I did not load airtime for my father. He realized that I was sad. He held me in his arms and said, "don't worry my son. Let's do it together". Then he loaded as I was watching. I was very happy to learn how to load airtime.

Questions for composition :

- (i) What happened to the airtime of the father?
- (ii) Why did the writer go to the shop?
- (iii) When the writer brought airtime, what was his father doing?
- (iv) Why was the writer excited?
- (v) Why did the writer get disappointed?

Or

- (b) Write an essay on different types of visual aids.

**C-7024**

**Sub. Code**

**31**

**COMMON FOR ALL U.G. DEGREE COURSES  
EXAMINATION, NOVEMBER 2022**

**Third Semester/Third Year**

**Part II — ENGLISH**

**COMMUNICATIVE SKILLS**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is meant by non-verbal communication?
2. How do you manage noise situation on your presentation?
3. Frame Question for the following sentences.
  - (a) I would like to become an investigating agent.
  - (b) He had worked here for the past ten years.
4. Define Homophones.
5. Give two example for wrong position of adverb.
6. What is the main use of interjections?
7. What are called consonants?
8. What is meant by rising intonation?
9. What are the benefits of skimming?
10. Mention any two mechanics of good handwriting.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a paragraph on non-verbal communication.

Or

- (b) What are the ways of challenging the barriers of communication?

12. (a) Write a short note on homophones with examples.

Or

- (b) Change the following active sentences into passive voice.

- (i) I did not beat her.
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Or

- (b) Write in short on some confused use of adjectives.

14. (a) Write a note on primary stress with proper examples.

Or

- (b) Describe the general use of intonation.



15. (a) What are the uses of silent reading?

Or

(b) What is the role of SQ3R in communication?

**Part C** (3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail on effective ways of communication.

Or

(b) Write an essay on barriers to communication and effective ways to overcome the barriers.

17. (a) Write briefly on the following :

(i) Phrasal verbs

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18. (a) Write an essay on the types of reading and developing reading strategies.

Or

(b) Explain briefly on mechanics of good handwriting.

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**C-7025**

**Sub. Code**

**41**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Part II — English**

**EMPLOYABILITY SKILLS**

**(Common for all UG Degree Courses)**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** following questions.

1. How do you introduce a person in a public meeting?
2. What is meant by head to foot appearance?
3. Why do we write letters?
4. What are the basic elements for writing job application?
5. What are the different types of greetings?
6. Define portfolio.
7. What is meant by oral composition?
8. What are the three main parts of a composition?
9. Define kinesics.
10. What are the technical elements for using video aids for communication?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write in short on telephonic etiquettes.

Or

- (b) Describe in short on head to foot appearance.

12. (a) What are the important aspects on resume writing?

Or

- (b) Write a letter to the editor about your street road's poor condition.

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Or

- (b) Write a paragraph on 'e-waste'.

15. (a) Write in short on gesture.

Or

- (b) Describe in short on the uses of visual aids.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on interview techniques and head to foot appearance while attending interview.

Or

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Or

- (b) Write a review for two books that you recently read.

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Using My bicycle, I rode as fast as a horse. I returned within ten minutes with airtime. When I reached home, I found my father busy listening to the news on radio. He was so attentive that he did not want any disturbance. He therefore, gave me the mobile phone to load the airtime for him.

I was excited because I was going to do so for the first time. I got the airtime card and scratched it. Since I did not know what to do after scratching, I opened the phone. Then I took it to my father thinking I had done the right thing.

My father immediately tried to call his friend. He dialed repeatedly but the call could not go through. "Have you loaded the airtime"? he asked me. I responded happily that I had loaded it. As he removed the battery, the airtime card dropped on the floor. "Oh my son! you did not know how to load airtime !" he laughed. I was disappointed that I did not load airtime for my father. He realized that I was sad. He held me in his arms and said, "don't worry my son. Let's do it together". Then he loaded as I was watching. I was very happy to learn how to load airtime.

Questions for composition :

- (i) What happened to the airtime of the father?
- (ii) Why did the writer go to the shop?
- (iii) When the writer brought airtime, what was his father doing?
- (iv) Why was the writer excited?
- (v) Why did the writer get disappointed?

Or

- (b) Write an essay on different types of visual aids.

**C- 7019**

**Sub. Code**

**91411/12**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022**

**First Year / First Semester**

**Part II — English**

**PROSE AND COMMUNICATION SKILLS**

**(Common for All U.G. Degree Courses)**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Who is compared to the man who stumbles through his lessons?
2. What are the leadership quality according to Indira Gandhi?
3. Life is a —————
4. What is the main theme of the story “Crime and Punishment”?
5. Name the book which is about recipes as mentioned by Atwood?
6. What is the duty of each community in the view point of Sarojini Naidu?
7. Define Simple Present Tense.

8. Fill in the blanks with correct adjectives :

(a) Elephant is the ——— animal.

(b) She is a ——— lady.

9. Define definite article.

10. Fill in the blanks using correct modals :

(a) ——— I go?

(b) He ——— follow the rules.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a short note on quality education leads to attain excellence.

Or

(b) Why does Indira Gandhi insist that youth are the backbone of India?

12. (a) Why was Balfour organized when he had to make a speech?

Or

(b) Describe the relationship between the student and the teacher.

13. (a) Why did Atwood prefer animal stories?

Or

(b) What does Sarojini Naidu say about the vision of patriotism?

14. (a) Explain the uses of simple past and past continuous Tense with examples.

Or

(b) What is Noun? What are the types of Nouns? Explain.

15. (a) Identify the pattern of the following sentences :

- (i) I was working in my father's company.
- (ii) Quality education is a must one.
- (iii) He bought many books about the country.
- (iv) The men have worked for five hours.
- (v) I will meet you there in a moment.

Or

(b) Fill in the blanks with the correct article :

- (i) I saw ——— tiger.
- (ii) This is ——— purse she presented me.
- (iii) The function was quite ——— success.
- (iv) ——— family sits for lunch.
- (v) This car runs at sixty kilometers ——— hour.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) What are Livingstone's views on education?

Or

(b) Write an essay on "On the Power of Youth".

17. (a) What are Gardiner's views on desirability or otherwise of forming habits?

Or

(b) What is the moral of the story "Crime and punishment? Elucidate.



18. (a) Fill in the blanks with correct adverbs from the box:  
(usually, never, once, always, often, mostly, very, sometimes, occasionally, rarely)
- (i) I \_\_\_\_\_ go to bed at 10 O' clock.
  - (ii) I have \_\_\_\_\_ been to the USA.
  - (iii) I have been to Australia Just \_\_\_\_\_
  - (iv) I \_\_\_\_\_ take a bath before I go to bed.
  - (v) My grand-parents live in Kerala. I visit them \_\_\_\_\_
  - (vi) My friends are \_\_\_\_\_ non-smokers.
  - (vii) I was \_\_\_\_\_ impressed with her.
  - (viii) I \_\_\_\_\_ go for a walk in the park.
  - (ix) I watch English films \_\_\_\_\_
  - (x) They \_\_\_\_\_ go out.

Or

- (b) Fill in the blanks with appropriate prepositions :
- (i) The old man sat \_\_\_\_\_ the chair.
  - (ii) He jumped \_\_\_\_\_ the wall.
  - (iii) He has been singing here \_\_\_\_\_ 8 O' clock.
  - (iv) He earned more \_\_\_\_\_ his sister.
  - (v) He ran \_\_\_\_\_ the room.
  - (vi) He is walking \_\_\_\_\_ the road.
  - (vii) The pries knelt \_\_\_\_\_ the altar as the bride stood by him.
  - (viii) \_\_\_\_\_ sweets the corporation building there is a hotel.
  - (ix) He spoke \_\_\_\_\_ the independence of India.
  - (x) The wholesaler gives commission \_\_\_\_\_ 25%.

**C-7044**

**Sub. Code**

**91412**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GENERAL ANATOMY AND PHYSIOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What are functions of tissues?
2. Define Hypoxia.
3. What is skeletal muscle?
4. What are the types of Hemoglobin?
5. Write the difference between arteries and veins.
6. Give two examples of ball and socket joint.
7. What is salivary gland?
8. What is rectum?
9. Write the importance of heart sounds.
10. What is Gall bladder?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write in brief Anatomy of liver.

Or

(b) Write in brief anatomy of spleen.

12. (a) Discuss functions of plasma.

Or

(b) Write a short note on Male reproductive system.

13. (a) Write a brief note on mechanism of respiration.

Or

(b) Summarize the important points about general physiology.

14. (a) Short note on water soluble vitamins.

Or

(b) Summarize the stages of ENDOMETRIAL cycles.

15. (a) Discuss blood plasma in detail.

Or

(b) Discuss about plasma proteins.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss with a model urinary bladder and its functions.

Or

(b) Describe in detail the functions and structure of skin.

17. (a) Explain in detail Lung volume and its capacities.

Or

(b) Discuss in detail the brain structure and its functions.

18. (a) Discuss in detail menstrual cycle.

Or

(b) Explain anatomy of respiratory track.

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**C-7045**

**Sub. Code**

**91413**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GENERAL AND OCULAR BIOCHEMISTRY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Differentiate the fructose from glucose.
2. Write the structure of cholesterol.
3. Mention briefly on night blindness.
4. What is denaturation of protein?
5. List out the types of contact lens and mention their specificity.
6. Explain the refractive power of the cornea.
7. What are the changes that take place in aqueous humour when wearing contact lens?
8. State the types of cataract.
9. Mention the normal and abnormal values of Hb.
10. Write short notes on biological uses of estimation of blood urea.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write the structure and chemistry of heteropolysaccharides.

Or

- (b) Explain the clinical features of atherosclerosis.

12. (a) Give an account of quaternary structure of protein.

Or

- (b) Describe the classification of enzyme.

13. (a) Explain the layers and biochemistry of cornea.

Or

- (b) How are corneal dehydration maintained? Mention the uses of corneal dehydration.

14. (a) Mention the biochemical composition of aqueous humour.

Or

- (b) Explain the requirements for lens dehydration.

15. (a) Discuss on the blood grouping.

Or

- (b) How do you estimate and interpret the plasma protein? Explain.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the classification and chemistry of lipids.

Or

- (b) Write short notes on :

(i) Chemistry of disaccharides. (5)

(ii) Reactions of TCA cycle. (5)

17. (a) Describe the chemistry and classification of amino acids.

Or

- (b) Discuss on uses and deficiency disorders of water soluble vitamins.

18. (a) Elaborate on the layers, formation and biochemistry of tear film.

Or

- (b) Draw a neat structure of lens and explain its biochemical composition.
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**C-7046**

**Sub. Code**

**91414**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GEOMETRICAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is particle nature of light?
2. Define Fermat's law of reflection.
3. Define Snell's law.
4. What is wave front of light ray?
5. Define focal point of spherical surface.
6. What is magnification power?
7. What is spherical aberration?
8. Write some two types of lens shapes.
9. Define dispersive power.
10. Write any two medical use optical fibers.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain in brief wave nature, speed and wavelength of light.

Or

- (b) Write a short note on Fermat's principle for law of refraction.
12. (a) What is critical angle and what are the condition for total internal reflection?

Or

- (b) Discuss about geometrical path length of light rays.
13. (a) Discuss in detail dioptic power of spherical surface.

Or

- (b) Write a short note on refraction by concave spherical surface.
14. (a) Derive lens makers formula.

Or

- (b) Briefly discuss lateral magnification of thin lenses.
15. (a) Explain in brief prism diopters.

Or

- (b) Briefly explain how refraction takes in prism.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail the refraction by plane parallel slab of glass.

Or

- (b) Derive the vergence equation and explain its significance.
17. (a) Derive an expression for equivalent focal length of two thin lenses separated by distance.

Or

- (b) Discuss in detail the following lens aberrations
- (i) Chromatic aberration
  - (ii) Distortion effect
18. (a) Explain in detail different types of optical fibers.

Or

- (b) Discuss in detail lateral and axial magnification of refraction surface.
-

**C-7047**

**Sub. Code**

**91415**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**First Semester**

**Optometry**

**NUTRITION**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Classification of amino acids.
2. Deficiency of iron.
3. What does satiety mean in Nutrition?
4. Deficiency of iodine.
5. RDA of proteins.
6. Energy value of foods.
7. Functions of ascorbic acid.
8. List out causes for plaque formation in blood vessel.
9. List out Calcium deficiency diseases.
10. Define body mass index.

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Energy requirements of various age groups.

Or

- (b) Diet planning.

12. (a) Minerals associated with eye.

Or

- (b) Functions and sources of carbohydrates.

13. (a) Essential amino acids.

Or

- (b) Specific dynamic action of food.

14. (a) Define BMR and factors affecting BMR.

Or

- (b) Anthropometric measurements.

15. (a) Functions and classification of fat.

Or

- (b) Causes and effects of obesity on health.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) How does Measles affect the Eye?

Or

- (b) Heart disease associated with Hyperlipidemia.

17. (a) Diet in pregnancy.

Or

(b) Give an account on protein-functions requirements and dietary sources.

18. (a) Discuss fats and eye.

Or

(b) Antioxidants and vision.

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**C-7048**

**Sub. Code**

**91416**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**COMPUTERS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. List out the parts of a computer.
2. Give the names of different types of computers.
3. List any two number systems you know.
4. Express the decimal number 13 in octal.
5. How does windows operating system work?
6. Write down the principles of operating system.
7. What is the use of header and footer in a word document.
8. What is the difference between animation and transition in MS Powerpoint?
9. How do you call the mail sent via the internet?
10. What are the different ways of chatting in internet?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the fundamental elements of a computer? Explain with a neat architecture.

Or

- (b) What are storage devices? Discuss briefly about their functions.

12. (a) Represent the decimal number 17 in binary, octal and hexadecimal number systems.

Or

- (b) What is octal number system? Explain its elements and give examples

13. (a) Discuss briefly about the features of an operating system.

Or

- (b) How many types of control panels are there? Explain.

14. (a) How do you set up a wireless printer? Explain the steps.

Or

- (b) Discuss in brief about the components of worksheet.

15. (a) How can you chat using the Internet? Explain the steps

Or

- (b) Write down different types of antivirus tools and their features.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about classification of computers.

Or

- (b) Explain in detail with the step by step procedure to convert an octal number system to a decimal number system.

- 17 (a) What is a window? Discuss in detail about its components with a neat structure.

Or

- (b) How do you create a chart with multiple data in excel? Explain the steps through an example.

- 18 (a) Elaborate in detail about the steps to create animations and transitions in MS Powerpoint. Give example.

Or

- (b) How to prevent and remove viruses and other Malware? Explain.
-



**C-7023**

**Sub. Code**

**91421/22**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Year – Second Semester**

**Part II – English**

**PROSE, EXTENSIVE READING AND COMMUNICATION  
SKILLS**

**(Common for all UG Degree Courses)**

**(2016 onwards to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

**(10 × 2 = 20)**

Answer **all** questions.

1. What is Forster's attitude towards Mr. Rumble?
2. How long did it take to make orthosis 300 gm callipers?
3. When did Indians first have the vision of freedom?
4. How did Gandhi become enshrined?
5. How was Lynd converted to nationalism?
6. What is discipline of reality?
7. What is the function of an adverb?
8. Give two example of pronouns.
9. Give two examples of demonstrative pronouns
10. What are three types of conjunctions?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write brief note on Dr. Kalam's third vision.

Or

- (b) What are the two ways in which science benefits man?

12. (a) How does Nehru close his speech?

Or

- (b) What is discipline of reality? How does a child learn realities?

13. (a) Comment on the theme of *After Twenty Years*.

Or

- (b) Write the note on the character sketch of the astrologer.

14. (a) Fill in the blanks by adding adverbial clauses.

(i) You will win his favour \_\_\_\_\_.

(ii) \_\_\_\_\_ he is strong.

(iii) This is good \_\_\_\_\_.

(iv) \_\_\_\_\_ we must try.

(v) We eat \_\_\_\_\_.

Or

- (b) Define types of pronouns with examples.

15. (a) Change into Direct speech:
- (i) Shivani asked me how I could lift it.
  - (ii) Leela ordered her servant not to clean it.
  - (iii) He said that Kevin should come.
  - (iv) She said that rain had fallen last night.
  - (v) He asked me where I lived.

Or

- (b) Write a short note on three types of comparisons.

**Part C** (3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on the conflict between the state and the artist.

Or

- (b) Write about Dr. Kalam's contribution to Indian education.

17. (a) Sum up Plato's contradictory views on the artist's role in society.

Or

- (b) How does Nehru react to Gandhi's death? How does he finally reconcile himself to it?

18. (a) Explain Pronoun and its kinds with example.

Or

- (b) Write short notes on adverbial clauses and its types with examples.

**C-7049**

**Sub. Code**

**91422**

**B.Sc. DEGREE EXAMINATION NOVEMBER 2022**

**Second Semester**

**Optometry**

**OCULAR ANATOMY**

**(2016 onwards)**

Duration : 3 Hours

Maximum 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Enlist corneal layers.
2. Parts of optic nerve.
3. Tear film.
4. Parts of ciliary body.
5. Name the structures derived from ectoderm in the development of eye.
6. In short write about walls of the orbit.
7. Macula.
8. Structure of lens.
9. Levator palpebrae superiors.
10. Ciliary muscle.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain layers of eyelid with diagram.  
Or  
(b) Write notes on aqueous humour.
12. (a) Structure of choroid and its blood supply.  
Or  
(b) List the extra ocular muscles with their action.
13. (a) Explain crystalline lens with diagram.  
Or  
(b) Accessory lacrimal glands. Explain.
14. (a) Development of optic nerve  
Or  
(b) Write short notes on orbital fascia
15. (a) Explain ciliary zonules  
Or  
(b) Schlemms canal.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about uvea and its blood supply.  
Or  
(b) Describe the anatomy of the angle of anterior chamber and drainage of aqueous humour.

17. (a) Explain the anatomy of conjunctiva, blood supply and nerve supply.

Or

(b) Explain sphincter and dilator muscle in detail. Add a note on nerve supply of the eyeball.

18. (a) Explain visual pathway and its blood supply.

Or

(b) Anatomy of sphincter and dilator muscle. Describe.

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**C-7050**

**Sub. Code**

**91423**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Semester**

**Optometry**

**OCULAR PHYSIOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. List out the layers of cornea.
2. What is meant by an optic atrophy?
3. When will be the tear evaporation occur?
4. What is the function of lacrimal gland?
5. Mention the position of gaze.
6. What are the nerves present in the ocular muscles?
7. List out the types of color defects of eye.
8. What are the changes in accommodation with age?
9. Mention the lateral geniculate body.
10. List out the factors affecting in visual acuity.

**Part B**

(5 × 5 = 25)

Answer **all** questions

11. (a) Write the physiology of Uveo-scleral drainage.  
Or  
(b) Explain the physiology of optic nerve
12. (a) Give an account on structure and functions of blood-vitreous and blood-retinal barrier.  
Or  
(b) Mention the redistribution of tear.
13. (a) Explain the functions of extra ocular muscles.  
Or  
(b) Discuss briefly on excycloduction.
14. (a) Explain the role of control and measurement of IOP.  
Or  
(b) Explain the tension and relaxation theory of accommodation.
15. (a) Discuss on the contrast sensitivity.  
Or  
(b) Explain the importance of VER.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the composition, distribution and functions of vitreous humour.  
Or  
(b) Write short notes on :  
(i) Rod and Cone cell. (5)  
(ii) Drainage and circulation of aqueous humour. (5)



17. (a) Describe the blinking mechanisms of eye lid.

Or

(b) Discuss the mechanisms of binocular movements of eye.

18. (a) Discuss theories and mechanisms of electrophysiology of color vision.

Or

(b) Elaborate the mechanism, factors influencing and preparation of dark adaptation curve.

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**C-7051**

**Sub. Code**

**91424**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Second Semester**

**Optometry**

**PHYSICAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is dual nature of light?
2. What is simple harmonic motion?
3. Define interference.
4. Define Newtons rings
5. Define dispersive power.
6. What is airy pattern diffraction?
7. Write the nature of birefringence.
8. What is Hologram?
9. Define radiometry.
10. Write the use of quarter wave plate.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Describe in detail Hygen's principle for the law of reflection.

Or

- (b) Write a short note on wave velocity and group velocity.

12. (a) Explain Lloyd's mirror experiments.

Or

- (b) Write a short note on colour of thin films.

13. (a) Discuss briefly amplitude and phase of transmission grafting.

Or

- (b) Explain dispersive power of grafting.

14. (a) Write a brief note about plane of polarization and plane of vibration.

Or

- (b) Discuss how the nicolprism act as analyser.

15. (a) Explain spontaneous emission and stimulated emission.

Or

- (b) Write the important points about emission and absorption spectra.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe in detail super position of simple harmonic waves.

Or

- (b) Explain in detail interference due to wedge shaped film.

17. (a) Explain the working of diffraction due double slit. Discuss the nature of output.

Or

- (b) Draw a neat diagram and discuss the working of zone plate.

18. (a) Explain the principle and construction of Hologram.

Or

- (b) Give a detailed note on resolution of microscopes and Telescopes.

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**C-7052**

**Sub. Code**

**91425**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Semester**

**Optometry**

**MICROBIOLOGY AND PATHOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention the classes of bacteria based on their metabolic reactions.
2. Discuss briefly on corneal scraping.
3. Name the examples of enterobacteria.
4. Mention the disease caused by corynebacterium diphtheriae.
5. List out the disease caused by rubella virus.
6. How does the Histoplasma spread?
7. What are the chemical and biological agents that cause tissue injury?
8. State the cells which are involved in inflammation.
9. List out the types of retinoblastoma.
10. Write short notes on lens induced glaucoma.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write the steps involved in Gram's staining and interpret the result.

Or

- (b) Explain the physical methods of sterilization.

12. (a) Give an account on pathophysiology of pseudomonas and maraxella.

Or

- (b) Describe the clinical features of spirochetes.

13. (a) Give an account on ocular lesions of toxocara and filaria.

Or

- (b) Elaborate on cell and antimediated hypersensitivity reactions.

14. (a) Mention the structures and chemistry of inflammatory reaction.

Or

- (b) Explain the roll of capillary and fibroplast in tissue repairing mechanism.

15. (a) Discuss on the types and pathology of eye lid.

Or

- (b) Mention the types and clinical features of malignant melanoma.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the microbiology of ocular normal flora and pathogens.

Or

- (b) Explain the clinical importance, pathology, diagnosis and treatment of mycobacterias.

17. (a) Describe the pathology, diagnosis and treatment of positive cocci.

Or

- (b) Discuss on clinical importance, ocular lesions and preventive measures of HIV.

18. (a) Elaborate on the types and pathology of cataract.

Or

- (b) Write an essay on pathology of lacrimal gland tumors.

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**C-7053**

**Sub. Code**

**91432**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Third Semester**

**Optometry**

**VISUAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define colour vision.
2. What is visual activity?
3. Amplitude of accommodation.
4. Define Aphakia.
5. Discuss surface refraction.
6. What are the optical constants of the eye?
7. What is vertex distance?
8. What is coma aberration?
9. Write about dynamic refraction of the eye.
10. Define depth of field.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Relate and compare spatial and temporal resolution.

Or

- (b) Write a note on Etiology of refraction anomalies.

12. (a) Summarize the important points of Astigmatism.

Or

- (b) Discuss the changes in the lens during accommodation.

13. (a) Illustrate the important points of depth of field and depth of focus.

Or

- (b) Discuss the effect of vertex distance change.

14. (a) Describe subjective and objective tests and their avoidance.

Or

- (b) Discuss binocular refraction.

15. (a) Explain seidal aberration.

Or

- (b) Discuss Blur disc diameter.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail basic aspects of vision, contrast sensitivity.

Or

- (b) Explain far point and near point accommodation, range and measurement of amplitude accommodation.

17. (a) Discuss in detail procedures and clinical applications of retinoscopy.

Or

- (b) Write a detail essay of Anisiekonia, Apakia, Pseudophakia.

18. (a) Explain in detail types of aberration and how its corrected by eye.

Or

- (b) Discuss ocular magnification and relative spectacle magnification.
-

**C-7054**

**Sub. Code**

**91433**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**OCULAR DISEASE - I**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention few Virus that causes conjunctivitis.
2. Diagrammatic representation of Trachoma signs.
3. What is dendritic ulcer?
4. Hassal - Henle bodies.
5. Types of Staphyloma.
6. Heterochromia of Iris.
7. Nucleus of crystalline lens - Explain.
8. Micro spherophakia.
9. Blepharophimosis.
10. Normal Tension Glaucoma

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about artificial drainage in Glaucoma.

Or

- (b) Small incision cataract surgery.

12. (a) Elaborate degenerative conditions of uveal tract.

Or

- (b) Explain about normal drainage of aqueous humor.

13. (a) Explain Panophthalmitis.

Or

- (b) Blood supply of uveal tract.

14. (a) Explain Scleritis.

Or

- (b) Herpes Zoster Ophthalmic.

15. (a) Discuss about Surgical space in the orbit.

Or

- (b) Epiphora

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Primary angle closure glaucoma (PACG).

Or

- (b) Congenital Cataract.

17. (a) Developmental Glaucoma.

Or

(b) Anatomy of uveal tract.

18. (a) Episcleritis

Or

(b) Keratoplasty

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**C-7055**

**Sub. Code**

**91434**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**OPTOMETRIC INSTRUMENTS – I**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is the use of Maddox wing?
2. Give two Advantages of Logmar Chart.
3. What is Radius scope?
4. Notes on Projection charts.
5. Define the use of Brightness Acuity test.
6. Define Modulation transfer function of eye.
7. List the different types of near vision test charts .
8. Write about Jackson cross cylinder.
9. Types of Trial frames.
10. Define Glare testing.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write about Bausch and Lomb Keratometer.

Or

- (b) Write about Ishihara chart.

12. (a) Write about Visual Analyser advantages and disadvantages.

Or

- (b) Write notes on uses and application of Pentacam.

13. (a) Write about Cirrus.

Or

- (b) Notes on Pachymetry

14. (a) Explain about Autorefractometer.

Or

- (b) Explain indirect ophthalmoscope

15. (a) Explain simple and compound Microscope

Or

- (b) Write brief notes on argon Laser in ophthalmology.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain types of Retinoscope and method.

Or

- (b) Explain about Trial set and frame.

17. (a) Write essay on Abbreometer.

Or

(b) Essay on Pupillometer.

18. (a) Explain visual acuity charts and method

Or

(b) Explain the procedure of use and application of vision analysers.

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**C-7056**

**Sub. Code**

**91435**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**GENERAL AND OCULAR PHARMACOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What you meant by Liver first pass mechanism?
2. Write short notes on intradermal injection.
3. Define anaphylaxis.
4. Mention the LD50.
5. Name any two hypnotics.
6. Write the functions of paracetamol.
7. Mention the types and distribution of adrenergic receptor.
8. Point out the mode of action of cholinergic blockers in treatment of glaucoma.
9. How is ocular drop meets systemic circulation while eye being an avascular?
10. List out the uses of viscoelastic agents.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the factors influencing the drug absorption.

Or

- (b) Elaborate the non-conjugation reactions of drug metabolism.

12. (a) Elaborate the structure activity relationship study.

Or

- (b) Discuss the manifestation and treatment of ADR.

13. (a) Describe the role of NSAID in treatment of general and ocular diseases.

Or

- (b) Illustrate the action and therapeutic uses of cocaine and procaine.

14. (a) Explain the mechanism of action and therapeutic uses of adrenergic blockers.

Or

- (b) Discuss the general consideration of ANS.

15. (a) Illustrate on the ophthalmic diagnostic drugs.

Or

- (b) Mention the ocular drug penetration and enhancer agents.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the general route of drug administration.

Or

- (b) Illustrate the types and mechanisms of action of drug receptor.

17. (a) Mention the action and therapeutic uses of local anesthetics.

Or

- (b) Explain the therapeutic uses of NSAID over the steroidal antiinflammatory drugs.

18. (a) Illustrate the mode of action and application of antibiotics in ocular system.

Or

- (b) Write in detail note on antiglaucomic drugs.

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**C-7057**

**Sub. Code**

**91436**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**CLINICAL EXAMINATION OF VISUAL SYSTEM**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define 6/6 of ocular examination.
2. How would you examine mydriatics and miosis of pupil?
3. How do you observe the light reflexion of retina manually?
4. Define hyperopia.
5. Astigmatism is a hereditary disease, justify.
6. Define duochrome.
7. Mention the cyclodema.
8. Mention the role of prism in binocular examination.
9. Define presbyopia.
10. Write any two significance of IPD measurement.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the cover tests.

Or

(b) Demonstrate moddox Rod and Van Heric techniques.

12. (a) Illustrate the procedure to use streak retinoscope.

Or

(b) Describe the MEM.

13. (a) How would you test astigmatism under fog? Explain.

Or

(b) Discuss the Fan and Block test.

14. (a) Explain the pinhole estimation of refractive error.

Or

(b) Comment on Turville infinity balance.

15. (a) Interpret the IPD to a patient.

Or

(b) Write short notes on direct ophthalmoscopy.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Demonstrate the external examinations of the eye.

Or

(b) Discuss on Radical and chromoretinoscopy.

17. (a) Explain the J.C.C and Bichrome.

Or

(b) Describe the near subjective refraction.

18. (a) Elaborate different methods of measuring amplitude of accommodation.

Or

(b) Write in detail note on Gonioscopy.

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**C-7058**

**Sub. Code**

**91442**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OPTOMETRIC OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Absorption Prisms.
2. Rotatory Prism.
3. Vertex distance.
4. Sag formula.
5. Mention Raw materials of ophthalmic Blanks.
6. Define Specific gravity.
7. Hi-Index lenses – define.
8. Limitations of PAL.
9. SRC – Define.
10. Lens Brands available in Indian market.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Laws of reflection and law of reflection explain.

Or

- (b) Vertex distance and vertex power.

12. (a) Drop ball test explain.

Or

- (b) Fresnel prism and Rotatory Prism.

13. (a) Definition and characteristics of any two materials of ophthalmic Blanks.

Or

- (b) Magnification and minification in high plus and minus lenses.

14. (a) Advantages and Limitations of Bifocals.

Or

- (b) Manufacturing of Ophthalmic Blanks.

15. (a) UV coating and Hydro-phobic coating in detail.

Or

- (b) SRC and ARC in detail.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) PAL is detail.

Or

- (b) Form of lenses in detail.



17. (a) Prismatic effect on plano cylinder and spherocylinder.

Or

(b) Detailed History on ophthalmic Blanks.

18. (a) Lens enhancements and its types in detail.

Or

(b) Prisms and their definition, Properties, Reflection, notations and uses in detail.

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**C-7059**

**Sub. Code**

**91443**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OCULAR DISEASE – II**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Muscae Volitantes.
2. Macula.
3. Multiple sclerosis.
4. Adie's pupil.
5. Pursuit movement.
6. Intorsion
7. Hering's law.
8. Amblyopia.
9. Amaurosis fugax.
10. Two signs of Hypertensive Retinopathy.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Vitreous liquefaction.  
Or  
(b) Layers of retina.
12. (a) Vitreous opacities.  
Or  
(b) CSR.
13. (a) Blood supply of visual pathway.  
Or  
(b) Tests for colour vision.
14. (a) Ocular motility.  
Or  
(b) Nystagmus.
15. (a) Mysthaenia Gravis.  
Or  
(b) Morning Glory syndrome.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Vitrectomy.  
Or  
(b) Enucleation.

17. (a) Retinopathy of prematurity.

Or

(b) Optic neuritis.

18. (a) Anterior Ischaemic Optic Neuropathy.

Or

(b) Fourth nerve palsy.

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**C-7060**

**Sub. Code**

**91444**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OPTOMETRIC INSTRUMENTS – II**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention any two visual acuity charts for pre school childrens.
2. ERG.
3. Principle of A-Scan.
4. Mention any two uses of FFA.
5. What is Cryotherapy?
6. Schirmer's Test I.
7. Total Internal Reflection.
8. Static Perimetry.
9. Arcuate Scotoma.
10. Principle of Focimeter.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Assessment of Visual Acuity in children above 5 yrs of age.

Or

- (b) EMG and its uses.

12. (a) Explain Adaptometry.

Or

- (b) Photo coagulation.

13. (a) Anatomy of tear film.

Or

- (b) Explain about lacrimal function tests.

14. (a) Write on Distant Direct Ophthalmoscope.

Or

- (b) Elaborate the optics of Slit Lamp.

15. (a) Describe Pachymetry.

Or

- (b) Explain Photorefraction.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) A-Scan.

Or

- (b) Direct Gonioscopy.

17. (a) Bausch and Lomb Keratometer.

Or

(b) Various illuminations in Slit Lamp.

18. (a) FFA.

Or

(b) Different scotomas in Visual field.

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**C-7061**

**Sub. Code**

**91451**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**CONTACT LENS – 1**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** the questions.

1. Uses of Conical beam in slit lamp.
2. Any two lubricating agents.
3. Signs of acanthameoba keratitis.
4. Signs of GPC.
5. Uses of phenol red thread.
6. Tearscope.
7. Sebaceous glands of eyelid.
8. Dk/T – expand.
9. Any two properties of PMMA.
10. Any two advantages of T butyl serene.



**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Illustrate the anatomy of cornea.

Or

- (b) Explain the physiology behind corneal transparency.

12. (a) List some of the advantages of RGP lenses over SCL.

Or

- (b) What are the disadvantages of lathing.

13. (a) Write notes on extended keratometry and advantage of topography over keratometry.

Or

- (b) Explain the terms spectacle magnification, contact lens magnification and relative spectacle magnification.

14. (a) Write notes on Oxygen permeability of contact lenses and its in vivo measurements?

Or

- (b) Discuss about the diagnostic and refractive indication for fitting CLs.

15. (a) What are the desired physiologic properties of contact lens material?

Or

- (b) Compare advantages and disadvantages of low dk and high dk CL materials.

**Part C**

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Contraindications for Contact lens fitting.

Or

- (b) Vertex power calculations for vertex distance 14mm in

(i) -12.00DS Myope

(ii) +14.00 DS Hyperope

(iii) -3.50DS

(iv) +4.50DS

17. (a) Give detailed notes on RGP CL materials and SCL materials.

Or

- (b) Write notes on recent innovations in CL industry.

18. (a) What are the ocular measurements that are to be taken before fitting a RGP/SCL?

Or

- (b) Explain about a flat fit, optimum fit and steep fit RGP characteristics with the help of a diagram.

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**C-7062**

**Sub. Code**

**91452**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**BINOCULAR VISION – I**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What causes Head Tilt.
2. Sensory Exotropia.
3. What is Esophoria and Esotropia.
4. Maddox wing test.
5. Management of squint in children.
6. Modified krimsky test.
7. Contact lens in exotropia.
8. What is Fusion?
9. Near Point of Convergence.
10. How to test Accommodative facility with Flippers?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about voluntary and involuntary movement of the eye.

Or

- (b) Explain about Retinomotor value.

12. (a) Explain about the law of sensory correspondence.

Or

- (b) Explain about Direction of Deviations.

13. (a) Relative and Absolute position of test.

Or

- (b) Changes of Refraction with age.

14. (a) Corneal Reflex Tests.

Or

- (b) Bruckner's Test.

15. (a) Write notes on Maddox Rod Test.

Or

- (b) Bagolini Striated Glass Test.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain about Stereopsis. And its types of tests available.

Or

- (b) VI cranial Nerve Palsy.

17. (a) Measurement of Strabismus.

Or

(b) Subjective tests of Ocular Deviation.

18. (a) Measurement of Cyclo Deviations.

Or

(b) Types of Amblyopia.

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**C-7063**

**Sub. Code**

**91453**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**PEDIATRIC AND GERIATRIC OPTOMETRY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is Steropsis?
2. What is Cataract?
3. What is Myopic Shift?
4. Latent Hyperopia.
5. Hindrance for binocular vision.
6. EOM.
7. Dry ARMD.
8. Diplopia management.
9. Vertex distance.
10. Stand mangifier.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain visual development.

Or

(b) School Myopia.

12. (a) Strabismic Amblyopia.

Or

(b) Oculomotor disorders in pediatrics.

13. (a) Explain Hand — Eye Coordination.

Or

(b) Doll's eye manuvreur.

14. (a) Explain about loss of transparency of ocular media.

Or

(b) Contact lenses in elderly.

15. (a) Management of refractive error in children.

Or

(b) Frame selection for elderly.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Congenital anomalies of Eye lids.

Or

(b) Accommodative Esotropia in children and its management.

17. (a) Steropsis Assessment in children.

Or

(b) Explain Extra Ocular Motility and its tests.

18. (a) Sclera — Parts, Pathology and management.

Or

(b) How to assess vision in developmental disabilities children. Explain in detail.

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**C-7064**

**Sub. Code**

**91454**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**DISPENSING OPTICS**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Abbe value.
2. What is DBL and A size?
3. How is near IPD measured?
4. Mention any two trouble shoot with progressive lenses.
5. Fused Bifocals.
6. Types of bridges.
7. Photochromic lenses.
8. Soft design in PAL.
9. Mention few safety goggles.
10. Segment height in Bifocals.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are lenticular lenses? Explain the uses of lenticular lenses.

Or

- (b) What are Fresnel lenses? Explain the application of Fresnel lenses.

12. (a) Datum System of measurement.

Or

- (b) Explain about Prentice rule.

13. (a) Discuss the advantages and disadvantages of Glass and Plastic lenses.

Or

- (b) What are absorptive lenses? Classify the type of tints.

14. (a) Transpose the following.

(i)  $+1.25 / -1.50 \times 90$

(ii)  $-0.25 / -0.50 \times 5$

(iii)  $-8.25 / -1.75 \times 10$

(iv)  $+3.0 / +2.0 \times 95$

(v)  $-1.0 / +1.0 \times 60$

Or

- (b) Define refractive index. What are the different refractive indices available? What is the refractive index of Polycarbonate lenses?

15. (a) Explain about Surfacing, Glazing, Polishing.

Or

(b) Draw a neat labelled diagram of PAL.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) What are impact resistant lenses? How are they made? What is the special group of people for whom it is advised?

Or

(b) What is Bifocals? What are the different type of Bifocal designs?

17. (a) What is neutralization? Explain the process of neutralization in detail.

Or

(b) Explain about

- (i) CR-39 lenses
- (ii) Polycarbonate
- (iii) High-Index
- (iv) Trivex

18. (a) Explain recording and ordering of lenses in detail.

Or

(b) Detail about final checking and counseling on wearing and maintaining of spectacles.

**C-7065**

**Sub. Code**

**91455**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**PUBLIC HEALTH AND COMMUNITY OPTOMETRY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Any two examples of preventable blindness.
2. Glaucoma is an example of avoidable blindness. True or false. justify
3. Prevalence of refractive error in India.
4. Definition of Low vision.
5. Define Blindness.
6. What is the handicap percentage for blindness in one eye and other eye having 6/6 VA?
7. Importance of prenatal birth history in ophthalmic cases.
8. Any two benefits of ESI act in public health.
9. Any two complications of uncontrolled Diabetes mellitus.
10. What is Ophthalmia neonatarum?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Give a brief account on global prevalence of blindness.

Or

- (b) Explain in brief about tele optometry.

12. (a) Explain in brief about the role of optometrist in preventable eye diseases.

Or

- (b) Discuss about the management of Retinitis pigments.

13. (a) How do you manage a 'red eye'.

Or

- (b) Compare the outcomes of any three cataract surgery procedures.

14. (a) History taking in children.

Or

- (b) Write notes about pathological myopia.

15. (a) Enumerate the Mortality indicators discuss any two in brief.

Or

- (b) Screening protocol for DR.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss about the levels of prevention in eye care with suitable examples.

Or

- (b) Childhood blindness list the causes and discuss why childhood blindness is a priority issue.

17. (a) Discuss the objectives of NPCB and how NGOs help in achieving those objectives.

Or

- (b) On the account of world sight day, you are asked to organise an eye screening camp in a local school to screen 1000 students in a single day. Explain the planning of manpower and resources to accomplish this task.

18. (a) Why are diseases like glaucoma or Diabetic retinopathy considered a economical burden on the country. Discuss in detail.

Or

- (b) Explain in detail about social and economic blindness and discuss rehabilitation in such patients. Also enlist the concessions and allowance state government is providing them right now.

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**C-7066**

**Sub. Code**

**91456**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**BIO – STATISTICS**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Write the formula for proportional mortality rate.
2. Define Morbidity.
3. Define type II error.
4. Write any two merits of median.
5. Define correlation.
6. Write any two application of binomial distribution.
7. Write the density function of standard normal distribution.
8. Write the formula for bed turnover rate.
9. Define degree of freedom.
10. Write any two application of hospital statistics.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Describe about Mortality rate.

Or

- (b) Explain about post neonatal Mortality rate.

12. (a) Explain systematic sampling plan.

Or

- (b) Write the procedure for single mean test for large sample.

13. (a) What are the types of classification. Explain with examples.

Or

- (b) Calculate mode for the following data

<i>C.I</i>	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
<i>f</i>	5	7	15	10	3

14. (a) Write the properties of normal distribution.

Or

- (b) Write Chi-square procedure in detail.

15. (a) How to collect hospital statistics data? Explain.

Or

- (b) Explain about bed occupancy rate.



**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain census method in detail.

Or

- (b) Calculate mean, median and mode for the following data.

BMI                    20 22 24 26 28 30  
No of patients 10 15 25 17 10 3

17. (a) Calculate quartile deviation for the following data.

C.I 5–10 10–15 15–20 20–25 25–30 30–35 35–40  
f    5     17     38     27     25     15     8

Or

- (b) Calculate spearman's Rank correlation for the following data.

X 25 36 48 52 31 43 20 17  
Y 36 21 43 52 47 28 20 10

18. (a) From the following data, use  $\chi^2$  test and conclude whether inoculation is effective in preventing tuberculosis.

Group	Attacked	Not Attacked
inoculated	10	90
Not inoculated	26	74

Or

- (b) State and prove multiplication theorem when two events A and B are independent each other.

**C-7067**

**Sub. Code**

**91461**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Sixth Semester**

**Optometry**

**CONTACT LENS – II**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. A \_\_\_\_\_ mm change in BC demands a change of TD by \_\_\_\_\_ mm
2. If a  $-2.00DC \times 180$  toric CL rotates 10 degree anticlockwise what will be the final prescription.
3. Recent history of pulmonary tuberculosis is a contraindication for CL use. Why?
4. Silicone hydrogels are low in dk yet used as extended wear lenses. Explain
5. What is the use of a push up test?
6. Extended keratometry: Range: \_\_\_\_\_ to \_\_\_\_\_ 60D.
7. Steeper corneas are found in \_\_\_\_\_ and flatter corneas in \_\_\_\_\_.
8. Flat fit in keratoconus is termed as \_\_\_\_\_ and causes \_\_\_\_\_.

9. Type B prosthetic CL can be used for \_\_\_\_\_ and \_\_\_\_\_.
10. Define enucleation and evisceration.

**Part B** (5 × 5 = 25)

Answer **all** questions.

11. (a) Advantages of RGP lenses.
- Or
- (b) Give notes on low and moderate dK extended wear lenses.
12. (a) Fitting assessment of toric SCL?
- Or
- (b) Fitting RGPs in keratoconus.
13. (a) List the precautions that are to taken with using Contact Lenses in a pandemic situation.
- Or
- (b) Types of prosthetic contact lenses.
14. (a) Contact lens fitting in High myopia.
- Or
- (b) Fitting contact lenses in aphakia.
15. (a) List some of the corneal complications of using CL.
- Or
- (b) Enumerate the common disinfecting agents used in CL solutions and its importance

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about scleral and miniscleral lenses

Or

- (b) Write in detail on uses of prosthetic shells and fitting assessment

17. (a) Give detailed notes on multifocal CLs.

Or

- (b) Explain the various available RGP CL materials and their properties.

18. (a) Discuss in detail about examining a CL patient in followup visits.

Or

- (b) Explain how CLs must be fitted in irregular corneas in corneal ectatic conditions.

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**C-7068**

**Sub. Code**

**91462**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Sixth Semester**

**Optometry**

**BINOCULAR VISION - II**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Uses of Fresnel prism.
2. Surgery for Esotropia.
3. How to manage squint in paediatrics?
4. Uses of prisms in field expansions.
5. Prescribing bifocals in paediatrics.
6. Diplopia managements in RTA.
7. Principle of Hess charting.
8. Intermittent divergent squint.
9. NPC using accommodative target.
10. What is plastic age?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) AC/A Ratio.

Or

(b) Microtropia.

12. (a) Explain about Esotropia in Myopes.

Or

(b) Cyclo Deviation.

13. (a) Past Pointing.

Or

(b) Double Elevator Palsy.

14. (a) Fixation and Field of Fixation.

Or

(b) Convergence through Spectacle Lens.

15. (a) Broad H Test.

Or

(b) Monocular Estimation Method.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Infantile Esotropia.

Or

(b) Sensory Exo Deviation.

17. (a) Dissociated Vertical Deviation

Or

(b) Convergence Insufficiency - Definition, Tests and Treatment Modalities.

18. (a) Explain about Penalization and its types.

Or

(b) Inter Pupillary Distance Measurement for Distance and Near.

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**C-7069**

**Sub. Code**

**91463**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Sixth Semester**

**Optometry**

**LOW VISION AID**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Explain saccades and pursuits.
2. Types of counselling services of Low vision.
3. What are the components of vision?
4. Explain 6/24.
5. Explain visual dysfunction.
6. What is visual handicap?
7. What is Absolute scotoma?
8. Leber's congenital amaurosis.
9. History of Low vision.
10. Social assessment of low vision.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the risk factors of Low vision?

Or

- (b) Explain Angular Magnification.

12. (a) Role of Contact Lens in Low Vision.

Or

- (b) Management strategy for peripheral visual field defects.

13. (a) Explain Levenson's Formula.

Or

- (b) Galilean Telescopes - Principles, Diagram, Uses.

14. (a) What are the Aims of prescribing low vision?

Or

- (b) Explain about the ways of assessing visual fields in Low vision.

15. (a) Optical Low Vision devices for Near.

Or

- (b) Social history for low vision correction and its management.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Counselling of Low vision to Patients and Relatives.

Or

- (b) Systemic diseases in relation to low vision.

17. (a) Explain about the types of Non - Optical devices.

Or

- (b) Refraction Procedures for Low vision.

18. (a) Telescopes

Or

- (b) Mangifiers
-

**C-7070**

**Sub. Code**

**91464**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Sixth Semester**

**Optometry**

**OCCUPATIONAL OPTOMETRY**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Expand LASER. List one of its harmful effect.
2. Any two ill effects of IR radiation.
3. Any two ill effects of UV radiation.
4. Carpal tunnel syndrome.
5. What is PPE?
6. Filters for welding workers.
7. -0.75DS Myopia is acceptable in navy officer recruitments. True or False. Justify.
8. BCVA of 6/12 is mandatory for obtaining driving licence globally. True or False. Justify.

9. Mention any two vision screeners used in industry screening.
10. List two safest spectacle lens materials.

**Part B** (5 × 5 = 25)

Answer **all** questions.

11. (a) Define and write brief notes on Occupational Hygiene.

Or

- (b) Discuss about the harmful effects of UV radiation.

12. (a) List down the objectives of ILO.

Or

- (b) Works accomplished by WHO in occupational health so far.

13. (a) Discuss the importance of PPE in housekeepers.

Or

- (b) Discuss the occupational health hazards in construction workers.

14. (a) Discuss about improving ergonomics in Optometrists clinical setup.

Or

- (b) What is visual task analysis and how is it done?

15. (a) Communicable diseases in healthcare workers - Discuss.

Or

- (b) List the measures to be taken to avoid stress induced disorders in health care workers.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Enumerate the Indian occupational health bodies and their objectives.

Or

- (b) What is your take on the role of optometrist in improving ocular health in a pandemic like Covid 19?

17. (a) Discuss the important national acts that ensure occupational health of citizens of India.

Or

- (b) Discuss in detail about eye health in IT workers.

18. (a) List the common eye injuries and need for Eye protection in different occupation.

Or

- (b) How important is eye protection is sports personnel. Discuss in detail.

**C-7071**

**Sub. Code**

**91465**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Sixth Semester**

**Optometry**

**SYSTEMIC DISEASE AFFECTING THE EYE**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Keratoconjunctivitis.
2. Modified diagnosis of rh fever.
3. Complication of gestational Diabetes mellitus.
4. Leukocoria.
5. Enucleation/Evisceration.
6. Osteogenesis Imperfecta.
7. Blepharoplasty.
8. Cretinism.
9. Subluxation.
10. Define SLE.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Optic Neuritis.

Or

(b) Neuromyelitis Optica.

12. (a) TB.

Or

(b) Syphilis.

13. (a) SABE.

Or

(b) Cardiovascular and eye.

14. (a) Grading and staging of neoplasms.

Or

(b) Papilodema.

15. (a) Vitamin and eye disorders.

Or

(b) Malaria.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Graves ophthalmopathy.

Or

(b) Hypertensive Retinopathy.

17. (a) Connective tissue disorders and eye.

Or

(b) Complication of DM.

18. (a) Genetic disorders and eye.

Or

(b) RHD.

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**C-7015**

**Sub. Code**

**17/18/19/24/  
25/26/27/28**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022**

**First Year / Second Semester**

**Nutrition and Dietetics**

**ENVIRONMENTAL STUDIES**

**(Common for All Degree Courses)**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Habit.
2. Mention the importance of environmental studies.
3. Define Renewable resources.
4. Explain the process of land degradation.
5. Food web.
6. Define Biodiversity.
7. What is meant by Noise pollution?
8. Merits of Air pollution.
9. What is meant by rural?
10. Define River.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Give an account on Deforestation.

Or

- (b) Enumerate the salient features about environment.

12. (a) Comment on Mineral resources.

Or

- (b) Write a short note on Effect on forest and tribal people.

13. (a) Give an account on insitu and ex- Situ conservation of biodiversity.

Or

- (b) Write a short notes on value of Biodiversity.

14. (a) Illustrate about causes, Effects and control measures of Nuclear hazards.

Or

- (b) Explain briefly about the demerits of soil pollution.

15. (a) Give an account on to document environmental assets of hill mountain.

Or

- (b) Comment on river ecosystem.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in briefly about the role of individual in conservation of natural resources.

Or

- (b) Give an account on Equitable use of resources for sustainable lifestyle.

17. (a) Write a short notes on India as a mega diversity Nation.

Or

(b) Give a detailed note on causes, effects and control measures of Noise pollution.

18. (a) Write a short note on study of common insects and birds.

Or

(b) Discuss in detail about biodiversity at global, National and Local levels.

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**C- 7019**

**Sub. Code**

**91411/12**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022**

**First Year / First Semester**

**Part II — English**

**PROSE AND COMMUNICATION SKILLS**

**(Common for All U.G. Degree Courses)**

**(2016 to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Who is compared to the man who stumbles through his lessons?
2. What are the leadership quality according to Indira Gandhi?
3. Life is a —————
4. What is the main theme of the story “Crime and Punishment”?
5. Name the book which is about recipes as mentioned by Atwood?
6. What is the duty of each community in the view point of Sarojini Naidu?
7. Define Simple Present Tense.

8. Fill in the blanks with correct adjectives :

(a) Elephant is the ——— animal.

(b) She is a ——— lady.

9. Define definite article.

10. Fill in the blanks using correct modals :

(a) ——— I go?

(b) He ——— follow the rules.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a short note on quality education leads to attain excellence.

Or

(b) Why does Indira Gandhi insist that youth are the backbone of India?

12. (a) Why was Balfour organized when he had to make a speech?

Or

(b) Describe the relationship between the student and the teacher.

13. (a) Why did Atwood prefer animal stories?

Or

(b) What does Sarojini Naidu say about the vision of patriotism?

14. (a) Explain the uses of simple past and past continuous Tense with examples.

Or

(b) What is Noun? What are the types of Nouns? Explain.

15. (a) Identify the pattern of the following sentences :

- (i) I was working in my father's company.
- (ii) Quality education is a must one.
- (iii) He bought many books about the country.
- (iv) The men have worked for five hours.
- (v) I will meet you there in a moment.

Or

(b) Fill in the blanks with the correct article :

- (i) I saw ——— tiger.
- (ii) This is ——— purse she presented me.
- (iii) The function was quite ——— success.
- (iv) ——— family sits for lunch.
- (v) This car runs at sixty kilometers ——— hour.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) What are Livingstone's views on education?

Or

(b) Write an essay on "On the Power of Youth".

17. (a) What are Gardiner's views on desirability or otherwise of forming habits?

Or

(b) What is the moral of the story "Crime and punishment? Elucidate.

18. (a) Fill in the blanks with correct adverbs from the box:  
(usually, never, once, always, often, mostly, very, sometimes, occasionally, rarely)
- (i) I \_\_\_\_\_ go to bed at 10 O' clock.
  - (ii) I have \_\_\_\_\_ been to the USA.
  - (iii) I have been to Australia Just \_\_\_\_\_
  - (iv) I \_\_\_\_\_ take a bath before I go to bed.
  - (v) My grand-parents live in Kerala. I visit them \_\_\_\_\_
  - (vi) My friends are \_\_\_\_\_ non-smokers.
  - (vii) I was \_\_\_\_\_ impressed with her.
  - (viii) I \_\_\_\_\_ go for a walk in the park.
  - (ix) I watch English films \_\_\_\_\_
  - (x) They \_\_\_\_\_ go out.

Or

- (b) Fill in the blanks with appropriate prepositions :
- (i) The old man sat \_\_\_\_\_ the chair.
  - (ii) He jumped \_\_\_\_\_ the wall.
  - (iii) He has been singing here \_\_\_\_\_ 8 O' clock.
  - (iv) He earned more \_\_\_\_\_ his sister.
  - (v) He ran \_\_\_\_\_ the room.
  - (vi) He is walking \_\_\_\_\_ the road.
  - (vii) The pries knelt \_\_\_\_\_ the altar as the bride stood by him.
  - (viii) \_\_\_\_\_ sweets the corporation building there is a hotel.
  - (ix) He spoke \_\_\_\_\_ the independence of India.
  - (x) The wholesaler gives commission \_\_\_\_\_ 25%.

**C-7044**

**Sub. Code**

**91412**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GENERAL ANATOMY AND PHYSIOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What are functions of tissues?
2. Define Hypoxia.
3. What is skeletal muscle?
4. What are the types of Hemoglobin?
5. Write the difference between arteries and veins.
6. Give two examples of ball and socket joint.
7. What is salivary gland?
8. What is rectum?
9. Write the importance of heart sounds.
10. What is Gall bladder?



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write in brief Anatomy of liver.

Or

(b) Write in brief anatomy of spleen.

12. (a) Discuss functions of plasma.

Or

(b) Write a short note on Male reproductive system.

13. (a) Write a brief note on mechanism of respiration.

Or

(b) Summarize the important points about general physiology.

14. (a) Short note on water soluble vitamins.

Or

(b) Summarize the stages of ENDOMETRIAL cycles.

15. (a) Discuss blood plasma in detail.

Or

(b) Discuss about plasma proteins.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss with a model urinary bladder and its functions.

Or

(b) Describe in detail the functions and structure of skin.

17. (a) Explain in detail Lung volume and its capacities.

Or

(b) Discuss in detail the brain structure and its functions.

18. (a) Discuss in detail menstrual cycle.

Or

(b) Explain anatomy of respiratory track.

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**C-7045**

**Sub. Code**

**91413**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GENERAL AND OCULAR BIOCHEMISTRY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Differentiate the fructose from glucose.
2. Write the structure of cholesterol.
3. Mention briefly on night blindness.
4. What is denaturation of protein?
5. List out the types of contact lens and mention their specificity.
6. Explain the refractive power of the cornea.
7. What are the changes that take place in aqueous humour when wearing contact lens?
8. State the types of cataract.
9. Mention the normal and abnormal values of Hb.
10. Write short notes on biological uses of estimation of blood urea.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write the structure and chemistry of heteropolysaccharides.

Or

- (b) Explain the clinical features of atherosclerosis.

12. (a) Give an account of quaternary structure of protein.

Or

- (b) Describe the classification of enzyme.

13. (a) Explain the layers and biochemistry of cornea.

Or

- (b) How are corneal dehydration maintained? Mention the uses of corneal dehydration.

14. (a) Mention the biochemical composition of aqueous humour.

Or

- (b) Explain the requirements for lens dehydration.

15. (a) Discuss on the blood grouping.

Or

- (b) How do you estimate and interpret the plasma protein? Explain.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the classification and chemistry of lipids.

Or

- (b) Write short notes on :

(i) Chemistry of disaccharides. (5)

(ii) Reactions of TCA cycle. (5)

17. (a) Describe the chemistry and classification of amino acids.

Or

(b) Discuss on uses and deficiency disorders of water soluble vitamins.

18. (a) Elaborate on the layers, formation and biochemistry of tear film.

Or

(b) Draw a neat structure of lens and explain its biochemical composition.

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**C-7046**

**Sub. Code**

**91414**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**GEOMETRICAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is particle nature of light?
2. Define Fermat's law of reflection.
3. Define Snell's law.
4. What is wave front of light ray?
5. Define focal point of spherical surface.
6. What is magnification power?
7. What is spherical aberration?
8. Write some two types of lens shapes.
9. Define dispersive power.
10. Write any two medical use optical fibers.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain in brief wave nature, speed and wavelength of light.

Or

- (b) Write a short note on Fermat's principle for law of refraction.
12. (a) What is critical angle and what are the condition for total internal reflection?

Or

- (b) Discuss about geometrical path length of light rays.
13. (a) Discuss in detail dioptic power of spherical surface.

Or

- (b) Write a short note on refraction by concave spherical surface.
14. (a) Derive lens makers formula.

Or

- (b) Briefly discuss lateral magnification of thin lenses.
15. (a) Explain in brief prism diopters.

Or

- (b) Briefly explain how refraction takes in prism.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail the refraction by plane parallel slab of glass.

Or

- (b) Derive the vergence equation and explain its significance.

17. (a) Derive an expression for equivalent focal length of two thin lenses separated by distance.

Or

- (b) Discuss in detail the following lens aberrations  
(i) Chromatic aberration  
(ii) Distortion effect

18. (a) Explain in detail different types of optical fibers.

Or

- (b) Discuss in detail lateral and axial magnification of refraction surface.

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**C-7047**

**Sub. Code**

**91415**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**First Semester**

**Optometry**

**NUTRITION**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Classification of amino acids.
2. Deficiency of iron.
3. What does satiety mean in Nutrition?
4. Deficiency of iodine.
5. RDA of proteins.
6. Energy value of foods.
7. Functions of ascorbic acid.
8. List out causes for plaque formation in blood vessel.
9. List out Calcium deficiency diseases.
10. Define body mass index.

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Energy requirements of various age groups.

Or

- (b) Diet planning.

12. (a) Minerals associated with eye.

Or

- (b) Functions and sources of carbohydrates.

13. (a) Essential amino acids.

Or

- (b) Specific dynamic action of food.

14. (a) Define BMR and factors affecting BMR.

Or

- (b) Anthropometric measurements.

15. (a) Functions and classification of fat.

Or

- (b) Causes and effects of obesity on health.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) How does Measles affect the Eye?

Or

- (b) Heart disease associated with Hyperlipidemia.

17. (a) Diet in pregnancy.

Or

(b) Give an account on protein-functions requirements and dietary sources.

18. (a) Discuss fats and eye.

Or

(b) Antioxidants and vision.

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**C-7048**

**Sub. Code**

**91416**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**First Semester**

**Optometry**

**COMPUTERS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. List out the parts of a computer.
2. Give the names of different types of computers.
3. List any two number systems you know.
4. Express the decimal number 13 in octal.
5. How does windows operating system work?
6. Write down the principles of operating system.
7. What is the use of header and footer in a word document.
8. What is the difference between animation and transition in MS Powerpoint?
9. How do you call the mail sent via the internet?
10. What are the different ways of chatting in internet?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the fundamental elements of a computer? Explain with a neat architecture.

Or

- (b) What are storage devices? Discuss briefly about their functions.

12. (a) Represent the decimal number 17 in binary, octal and hexadecimal number systems.

Or

- (b) What is octal number system? Explain its elements and give examples

13. (a) Discuss briefly about the features of an operating system.

Or

- (b) How many types of control panels are there? Explain.

14. (a) How do you set up a wireless printer? Explain the steps.

Or

- (b) Discuss in brief about the components of worksheet.

15. (a) How can you chat using the Internet? Explain the steps

Or

- (b) Write down different types of antivirus tools and their features.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about classification of computers.

Or

- (b) Explain in detail with the step by step procedure to convert an octal number system to a decimal number system.

- 17 (a) What is a window? Discuss in detail about its components with a neat structure.

Or

- (b) How do you create a chart with multiple data in excel? Explain the steps through an example.

- 18 (a) Elaborate in detail about the steps to create animations and transitions in MS Powerpoint. Give example.

Or

- (b) How to prevent and remove viruses and other Malware? Explain.
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**C-7023**

**Sub. Code**

**91421/22**

**U.G. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Year – Second Semester**

**Part II – English**

**PROSE, EXTENSIVE READING AND COMMUNICATION  
SKILLS**

**(Common for all UG Degree Courses)**

**(2016 onwards to 2018 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is Forster's attitude towards Mr. Rumble?
2. How long did it take to make orthosis 300 gm callipers?
3. When did Indians first have the vision of freedom?
4. How did Gandhi become enshrined?
5. How was Lynd converted to nationalism?
6. What is discipline of reality?
7. What is the function of an adverb?
8. Give two example of pronouns.
9. Give two examples of demonstrative pronouns
10. What are three types of conjunctions?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write brief note on Dr. Kalam's third vision.

Or

- (b) What are the two ways in which science benefits man?

12. (a) How does Nehru close his speech?

Or

- (b) What is discipline of reality? How does a child learn realities?

13. (a) Comment on the theme of *After Twenty Years*.

Or

- (b) Write the note on the character sketch of the astrologer.

14. (a) Fill in the blanks by adding adverbial clauses.

(i) You will win his favour \_\_\_\_\_.

(ii) \_\_\_\_\_ he is strong.

(iii) This is good \_\_\_\_\_.

(iv) \_\_\_\_\_ we must try.

(v) We eat \_\_\_\_\_.

Or

- (b) Define types of pronouns with examples.



15. (a) Change into Direct speech:
- (i) Shivani asked me how I could lift it.
  - (ii) Leela ordered her servant not to clean it.
  - (iii) He said that Kevin should come.
  - (iv) She said that rain had fallen last night.
  - (v) He asked me where I lived.

Or

- (b) Write a short note on three types of comparisons.

**Part C** (3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on the conflict between the state and the artist.

Or

- (b) Write about Dr. Kalam's contribution to Indian education.

17. (a) Sum up Plato's contradictory views on the artist's role in society.

Or

- (b) How does Nehru react to Gandhi's death? How does he finally reconcile himself to it?

18. (a) Explain Pronoun and its kinds with example.

Or

- (b) Write short notes on adverbial clauses and its types with examples.

**C-7049**

**Sub. Code**

**91422**

**B.Sc. DEGREE EXAMINATION NOVEMBER 2022**

**Second Semester**

**Optometry**

**OCULAR ANATOMY**

**(2016 onwards)**

Duration : 3 Hours

Maximum 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Enlist corneal layers.
2. Parts of optic nerve.
3. Tear film.
4. Parts of ciliary body.
5. Name the structures derived from ectoderm in the development of eye.
6. In short write about walls of the orbit.
7. Macula.
8. Structure of lens.
9. Levator palpebrae superiors.
10. Ciliary muscle.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain layers of eyelid with diagram.  
Or  
(b) Write notes on aqueous humour.
12. (a) Structure of choroid and its blood supply.  
Or  
(b) List the extra ocular muscles with their action.
13. (a) Explain crystalline lens with diagram.  
Or  
(b) Accessory lacrimal glands. Explain.
14. (a) Development of optic nerve  
Or  
(b) Write short notes on orbital fascia
15. (a) Explain ciliary zonules  
Or  
(b) Schlemms canal.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about uvea and its blood supply.  
Or  
(b) Describe the anatomy of the angle of anterior chamber and drainage of aqueous humour.

17. (a) Explain the anatomy of conjunctiva, blood supply and nerve supply.

Or

(b) Explain sphincter and dilator muscle in detail. Add a note on nerve supply of the eyeball.

18. (a) Explain visual pathway and its blood supply.

Or

(b) Anatomy of sphincter and dilator muscle. Describe.

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**C-7050**

**Sub. Code**

**91423**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Semester**

**Optometry**

**OCULAR PHYSIOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. List out the layers of cornea.
2. What is meant by an optic atrophy?
3. When will be the tear evaporation occur?
4. What is the function of lacrimal gland?
5. Mention the position of gaze.
6. What are the nerves present in the ocular muscles?
7. List out the types of color defects of eye.
8. What are the changes in accommodation with age?
9. Mention the lateral geniculate body.
10. List out the factors affecting in visual acuity.

**Part B**

(5 × 5 = 25)

Answer **all** questions

11. (a) Write the physiology of Uveo-scleral drainage.  
Or  
(b) Explain the physiology of optic nerve
12. (a) Give an account on structure and functions of blood-vitreous and blood-retinal barrier.  
Or  
(b) Mention the redistribution of tear.
13. (a) Explain the functions of extra ocular muscles.  
Or  
(b) Discuss briefly on exocycloduction.
14. (a) Explain the role of control and measurement of IOP.  
Or  
(b) Explain the tension and relaxation theory of accommodation.
15. (a) Discuss on the contrast sensitivity.  
Or  
(b) Explain the importance of VER.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the composition, distribution and functions of vitreous humour.  
Or  
(b) Write short notes on :  
(i) Rod and Cone cell. (5)  
(ii) Drainage and circulation of aqueous humour. (5)

17. (a) Describe the blinking mechanisms of eye lid.

Or

(b) Discuss the mechanisms of binocular movements of eye.

18. (a) Discuss theories and mechanisms of electrophysiology of color vision.

Or

(b) Elaborate the mechanism, factors influencing and preparation of dark adaptation curve.

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**C-7051**

**Sub. Code**

**91424**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Second Semester**

**Optometry**

**PHYSICAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is dual nature of light?
2. What is simple harmonic motion?
3. Define interference.
4. Define Newtons rings
5. Define dispersive power.
6. What is airy pattern diffraction?
7. Write the nature of birefringence.
8. What is Hologram?
9. Define radiometry.
10. Write the use of quarter wave plate.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Describe in detail Hygen's principle for the law of reflection.

Or

- (b) Write a short note on wave velocity and group velocity.

12. (a) Explain Lloyd's mirror experiments.

Or

- (b) Write a short note on colour of thin films.

13. (a) Discuss briefly amplitude and phase of transmission grafting.

Or

- (b) Explain dispersive power of grafting.

14. (a) Write a brief note about plane of polarization and plane of vibration.

Or

- (b) Discuss how the nicolprism act as analyser.

15. (a) Explain spontaneous emission and stimulated emission.

Or

- (b) Write the important points about emission and absorption spectra.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe in detail super position of simple harmonic waves.

Or

- (b) Explain in detail interference due to wedge shaped film.

17. (a) Explain the working of diffraction due double slit. Discuss the nature of output.

Or

- (b) Draw a neat diagram and discuss the working of zone plate.

18. (a) Explain the principle and construction of Hologram.

Or

- (b) Give a detailed note on resolution of microscopes and Telescopes.

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**C-7052**

**Sub. Code**

**91425**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Second Semester**

**Optometry**

**MICROBIOLOGY AND PATHOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention the classes of bacteria based on their metabolic reactions.
2. Discuss briefly on corneal scraping.
3. Name the examples of enterobacteria.
4. Mention the disease caused by corynebacterium diphtheriae.
5. List out the disease caused by rubella virus.
6. How does the Histoplasma spread?
7. What are the chemical and biological agents that cause tissue injury?
8. State the cells which are involved in inflammation.
9. List out the types of retinoblastoma.
10. Write short notes on lens induced glaucoma.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write the steps involved in Gram's staining and interpret the result.

Or

- (b) Explain the physical methods of sterilization.

12. (a) Give an account on pathophysiology of pseudomonas and maraxella.

Or

- (b) Describe the clinical features of spirochetes.

13. (a) Give an account on ocular lesions of toxocara and filaria.

Or

- (b) Elaborate on cell and antimediated hypersensitivity reactions.

14. (a) Mention the structures and chemistry of inflammatory reaction.

Or

- (b) Explain the roll of capillary and fibroplast in tissue repairing mechanism.

15. (a) Discuss on the types and pathology of eye lid.

Or

- (b) Mention the types and clinical features of malignant melanoma.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the microbiology of ocular normal flora and pathogens.

Or

- (b) Explain the clinical importance, pathology, diagnosis and treatment of mycobacterias.

17. (a) Describe the pathology, diagnosis and treatment of positive cocci.

Or

- (b) Discuss on clinical importance, ocular lesions and preventive measures of HIV.

18. (a) Elaborate on the types and pathology of cataract.

Or

- (b) Write an essay on pathology of lacrimal gland tumors.

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**C-7053**

**Sub. Code**

**91432**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022.**

**Third Semester**

**Optometry**

**VISUAL OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define colour vision.
2. What is visual activity?
3. Amplitude of accommodation.
4. Define Aphakia.
5. Discuss surface refraction.
6. What are the optical constants of the eye?
7. What is vertex distance?
8. What is coma aberration?
9. Write about dynamic refraction of the eye.
10. Define depth of field.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Relate and compare spatial and temporal resolution.

Or

- (b) Write a note on Etiology of refraction anomalies.

12. (a) Summarize the important points of Astigmatism.

Or

- (b) Discuss the changes in the lens during accommodation.

13. (a) Illustrate the important points of depth of field and depth of focus.

Or

- (b) Discuss the effect of vertex distance change.

14. (a) Describe subjective and objective tests and their avoidance.

Or

- (b) Discuss binocular refraction.

15. (a) Explain seidal aberration.

Or

- (b) Discuss Blur disc diameter.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail basic aspects of vision, contrast sensitivity.

Or

- (b) Explain far point and near point accommodation, range and measurement of amplitude accommodation.

17. (a) Discuss in detail procedures and clinical applications of retinoscopy.

Or

- (b) Write a detail essay of Anisiekonia, Apakia, Pseudophakia.

18. (a) Explain in detail types of aberration and how its corrected by eye.

Or

- (b) Discuss ocular magnification and relative spectacle magnification.
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**C-7054**

**Sub. Code**

**91433**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**OCULAR DISEASE - I**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention few Virus that causes conjunctivitis.
2. Diagrammatic representation of Trachoma signs.
3. What is dendritic ulcer?
4. Hassal - Henle bodies.
5. Types of Staphyloma.
6. Heterochromia of Iris.
7. Nucleus of crystalline lens - Explain.
8. Micro spherophakia.
9. Blepharophimosis.
10. Normal Tension Glaucoma

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about artificial drainage in Glaucoma.

Or

- (b) Small incision cataract surgery.

12. (a) Elaborate degenerative conditions of uveal tract.

Or

- (b) Explain about normal drainage of aqueous humor.

13. (a) Explain Panophthalmitis.

Or

- (b) Blood supply of uveal tract.

14. (a) Explain Scleritis.

Or

- (b) Herpes Zoster Ophthalmic.

15. (a) Discuss about Surgical space in the orbit.

Or

- (b) Epiphora

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Primary angle closure glaucoma (PACG).

Or

- (b) Congenital Cataract.

17. (a) Developmental Glaucoma.

Or

(b) Anatomy of uveal tract.

18. (a) Episcleritis

Or

(b) Keratoplasty

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**C-7055**

**Sub. Code**

**91434**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**OPTOMETRIC INSTRUMENTS – I**

**(2016 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is the use of Maddox wing?
2. Give two Advantages of Logmar Chart.
3. What is Radius scope?
4. Notes on Projection charts.
5. Define the use of Brightness Acuity test.
6. Define Modulation transfer function of eye.
7. List the different types of near vision test charts .
8. Write about Jackson cross cylinder.
9. Types of Trial frames.
10. Define Glare testing.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write about Bausch and Lomb Keratometer.

Or

- (b) Write about Ishihara chart.

12. (a) Write about Visual Analyser advantages and disadvantages.

Or

- (b) Write notes on uses and application of Pentacam.

13. (a) Write about Cirrus.

Or

- (b) Notes on Pachymetry

14. (a) Explain about Autorefractometer.

Or

- (b) Explain indirect ophthalmoscope

15. (a) Explain simple and compound Microscope

Or

- (b) Write brief notes on argon Laser in ophthalmology.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain types of Retinoscope and method.

Or

- (b) Explain about Trial set and frame.

17. (a) Write essay on Abbreometer.

Or

(b) Essay on Pupillometer.

18. (a) Explain visual acuity charts and method

Or

(b) Explain the procedure of use and application of vision analysers.

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**C-7056**

**Sub. Code**

**91435**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**GENERAL AND OCULAR PHARMACOLOGY**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What you meant by Liver first pass mechanism?
2. Write short notes on intradermal injection.
3. Define anaphylaxis.
4. Mention the LD50.
5. Name any two hypnotics.
6. Write the functions of paracetamol.
7. Mention the types and distribution of adrenergic receptor.
8. Point out the mode of action of cholinergic blockers in treatment of glaucoma.
9. How is ocular drop meets systemic circulation while eye being an avascular?
10. List out the uses of viscoelastic agents.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the factors influencing the drug absorption.

Or

- (b) Elaborate the non-conjugation reactions of drug metabolism.

12. (a) Elaborate the structure activity relationship study.

Or

- (b) Discuss the manifestation and treatment of ADR.

13. (a) Describe the role of NSAID in treatment of general and ocular diseases.

Or

- (b) Illustrate the action and therapeutic uses of cocaine and procaine.

14. (a) Explain the mechanism of action and therapeutic uses of adrenergic blockers.

Or

- (b) Discuss the general consideration of ANS.

15. (a) Illustrate on the ophthalmic diagnostic drugs.

Or

- (b) Mention the ocular drug penetration and enhancer agents.



**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the general route of drug administration.

Or

- (b) Illustrate the types and mechanisms of action of drug receptor.

17. (a) Mention the action and therapeutic uses of local anesthetics.

Or

- (b) Explain the therapeutic uses of NSAID over the steroidal antiinflammatory drugs.

18. (a) Illustrate the mode of action and application of antibiotics in ocular system.

Or

- (b) Write in detail note on antiglaucomic drugs.

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**C-7057**

**Sub. Code**

**91436**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Third Semester**

**Optometry**

**CLINICAL EXAMINATION OF VISUAL SYSTEM**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define 6/6 of ocular examination.
2. How would you examine mydriatics and miosis of pupil?
3. How do you observe the light reflexion of retina manually?
4. Define hyperopia.
5. Astigmatism is a hereditary disease, justify.
6. Define duochrome.
7. Mention the cyclodema.
8. Mention the role of prism in binocular examination.
9. Define presbyopia.
10. Write any two significance of IPD measurement.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the cover tests.

Or

(b) Demonstrate moddox Rod and Van Heric techniques.

12. (a) Illustrate the procedure to use streak retinoscope.

Or

(b) Describe the MEM.

13. (a) How would you test astigmatism under fog? Explain.

Or

(b) Discuss the Fan and Block test.

14. (a) Explain the pinhole estimation of refractive error.

Or

(b) Comment on Turville infinity balance.

15. (a) Interpret the IPD to a patient.

Or

(b) Write short notes on direct ophthalmoscopy.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Demonstrate the external examinations of the eye.

Or

(b) Discuss on Radical and chromoretinoscopy.

17. (a) Explain the J.C.C and Bichrome.

Or

(b) Describe the near subjective refraction.

18. (a) Elaborate different methods of measuring amplitude of accommodation.

Or

(b) Write in detail note on Gonioscopy.

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**C-7058**

**Sub. Code**

**91442**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OPTOMETRIC OPTICS**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Absorption Prisms.
2. Rotatory Prism.
3. Vertex distance.
4. Sag formula.
5. Mention Raw materials of ophthalmic Blanks.
6. Define Specific gravity.
7. Hi-Index lenses – define.
8. Limitations of PAL.
9. SRC – Define.
10. Lens Brands available in Indian market.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Laws of reflection and law of reflection explain.

Or

- (b) Vertex distance and vertex power.

12. (a) Drop ball test explain.

Or

- (b) Fresnel prism and Rotatory Prism.

13. (a) Definition and characteristics of any two materials of ophthalmic Blanks.

Or

- (b) Magnification and minification in high plus and minus lenses.

14. (a) Advantages and Limitations of Bifocals.

Or

- (b) Manufacturing of Ophthalmic Blanks.

15. (a) UV coating and Hydro-phobic coating in detail.

Or

- (b) SRC and ARC in detail.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) PAL is detail.

Or

- (b) Form of lenses in detail.

17. (a) Prismatic effect on plano cylinder and spherocylinder.

Or

(b) Detailed History on ophthalmic Blanks.

18. (a) Lens enhancements and its types in detail.

Or

(b) Prisms and their definition, Properties, Reflection, notations and uses in detail.

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**C-7059**

**Sub. Code**

**91443**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OCULAR DISEASE – II**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Muscae Volitantes.
2. Macula.
3. Multiple sclerosis.
4. Adie's pupil.
5. Pursuit movement.
6. Intorsion
7. Hering's law.
8. Amblyopia.
9. Amaurosis fugax.
10. Two signs of Hypertensive Retinopathy.



**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Vitreous liquefaction.  
Or  
(b) Layers of retina.
12. (a) Vitreous opacities.  
Or  
(b) CSR.
13. (a) Blood supply of visual pathway.  
Or  
(b) Tests for colour vision.
14. (a) Ocular motility.  
Or  
(b) Nystagmus.
15. (a) Mysthaenia Gravis.  
Or  
(b) Morning Glory syndrome.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Vitrectomy.  
Or  
(b) Enucleation.

17. (a) Retinopathy of prematurity.

Or

(b) Optic neuritis.

18. (a) Anterior Ischaemic Optic Neuropathy.

Or

(b) Fourth nerve palsy.

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**C-7060**

**Sub. Code**

**91444**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fourth Semester**

**Optometry**

**OPTOMETRIC INSTRUMENTS – II**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention any two visual acuity charts for pre school childrens.
2. ERG.
3. Principle of A-Scan.
4. Mention any two uses of FFA.
5. What is Cryotherapy?
6. Schirmer's Test I.
7. Total Internal Reflection.
8. Static Perimetry.
9. Arcuate Scotoma.
10. Principle of Focimeter.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Assessment of Visual Acuity in children above 5 yrs of age.

Or

- (b) EMG and its uses.

12. (a) Explain Adaptometry.

Or

- (b) Photo coagulation.

13. (a) Anatomy of tear film.

Or

- (b) Explain about lacrimal function tests.

14. (a) Write on Distant Direct Ophthalmoscope.

Or

- (b) Elaborate the optics of Slit Lamp.

15. (a) Describe Pachymetry.

Or

- (b) Explain Photorefraction.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) A-Scan.

Or

- (b) Direct Gonioscopy.

17. (a) Bausch and Lomb Keratometer.

Or

(b) Various illuminations in Slit Lamp.

18. (a) FFA.

Or

(b) Different scotomas in Visual field.

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**C-7061**

**Sub. Code**

**91451**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2022**

**Fifth Semester**

**Optometry**

**CONTACT LENS – 1**

**(2016 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** the questions.

1. Uses of Conical beam in slit lamp.
2. Any two lubricating agents.
3. Signs of acanthameoba keratitis.
4. Signs of GPC.
5. Uses of phenol red thread.
6. Tearscope.
7. Sebaceous glands of eyelid.
8. Dk/T – expand.
9. Any two properties of PMMA.
10. Any two advantages of T butyl serene.

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Illustrate the anatomy of cornea.

Or

- (b) Explain the physiology behind corneal transparency.

12. (a) List some of the advantages of RGP lenses over SCL.

Or

- (b) What are the disadvantages of lathing.

13. (a) Write notes on extended keratometry and advantage of topography over keratometry.

Or

- (b) Explain the terms spectacle magnification, contact lens magnification and relative spectacle magnification.

14. (a) Write notes on Oxygen permeability of contact lenses and its in vivo measurements?

Or

- (b) Discuss about the diagnostic and refractive indication for fitting CLs.

15. (a) What are the desired physiologic properties of contact lens material?

Or

- (b) Compare advantages and disadvantages of low dk and high dk CL materials.

**Part C**

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Contraindications for Contact lens fitting.

Or

- (b) Vertex power calculations for vertex distance 14mm in

(i) -12.00DS Myope

(ii) +14.00 DS Hyperope

(iii) -3.50DS

(iv) +4.50DS

17. (a) Give detailed notes on RGP CL materials and SCL materials.

Or

- (b) Write notes on recent innovations in CL industry.

18. (a) What are the ocular measurements that are to be taken before fitting a RGP/SCL?

Or

- (b) Explain about a flat fit, optimum fit and steep fit RGP characteristics with the help of a diagram.

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