



6th Semester End Term Examination: 2021-22.

Subject : Research Project

Roll No:

Course : B. Optometry

Full Marks : 70

Time : 3 Hours.

Instructions to the Candidates:

- Read the question paper very carefully.
- Start writing from 2nd page onwards; **Don't Write On The 1st Page Backside.**
- Question Paper is divided into Three Parts -A, B & C.
- Part-A is containing 10 multiple choice questions.
- Part- B containing EIGHT questions out of which SIX questions are to be answered.
- Part C containing FOUR questions out of which THREE questions are to be answered.
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PART - A

Multiple Choice Questions

[10x1=10]

1. The data of research is _____
 - a) Qualitative Only
 - b) Both a & b
 - c) Qualitative Only
 - d) Neither a nor b
2. At the start of each research project a researcher must decide on:
 - a) How many participants to include.
 - b) The journal the report will be published in.
 - c) What research question will be answered
 - d) How many books to order from the library
3. Research is related with
 - a) Discovery of new idea
 - b) Investigation of a problem
 - c) Solution of a problem
 - d) All the above
4. Which one is called non-probability sampling?
 - a) Quota sampling
 - b) Systematic sampling
 - c) Cluster sampling
 - d) Stratified random sampling
5. Research is

- a) Searching again and again
- b) Working in a scientific way to search for truth of any problem
- c) Finding solution to any problem
- d) None of the above
6. Last stage of research process is
- a) Review of literature
- b) Research design
- c) Report writing
- d) Analysis of data
7. A Statement that introduces a research question and proposes an expected result is called _____.
- a) Research Process
- b) Hypothesis
- c) Research Design
- d) Literature Review
8. Cluster sampling, stratified sampling and systematic sampling are types of
- a) Direct Sampling
- b) Indirect Sampling
- c) Random Sampling
- d) Non Random sampling
9. The T in PICOT criteria of research stands for
- a) Time
- b) Treatment
- c) Turbulence
- d) None of the above
10. Calculating average, percentages, mean, median and mode are all -
- a) Predictive analytics
- b) Descriptive analytics
- c) Inferential analytics
- d) Mechanistics analytics

PART - B

Answer any SIX out of EIGHT

[6x5=30]

1. Explain the criteria of a good research.
2. Draw the research process flow chart
3. What is a case series? Explain with an example
4. What are the disadvantages of non-probability sampling?
5. Write short note on hypothesis.
6. Explain what plagiarism is?
7. Write the difference between manuscript and thesis.
8. Explain the importance of informed consent in research process.

PART - C

Answer any THREE out of FOUR

[3x10=30]

1. What is probability sampling and non- probability sampling. Explain the lottery method with the help of an example
2. What is a case control study? Write down the advantages and disadvantages of case control study.
3. What is a research proposal. Explain the structure of a research proposal
4. What is stratified sampling? What are its advantages and disadvantages?



6th Semester End Term Examination: 2021-22.

Subject : Medical Law & Ethics

Roll No:

Course : B. Optometry

Full Marks : 70

Time : 3 Hours.

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PART - A

Multiple Choice Questions

[10x1=10]

1. Patients have the decision to take their own decision; it is termed as
a) Consensual
b) Autonomy
c) Beneficence
d) Just
2. Indian Medical Council Act was constituted in the year _____
a) 1999
b) 1918
c) 1956
d) 1899
3. _____ is the wilful absence of care in the treatment of a patient which may cause bodily harm or death
a) Professional negligence
b) Jeopardy
c) Professional secrecy
d) Euthanasia
4. Euthanasia comes from two Greek words "Eu" and "Thanatosis" meaning
a) Bad life
b) Poor survival
c) Good death
d) Great revival
5. The oath taken by the doctors is called _____
a) Socrates' oath
b) Plato's oath
c) Hippocratic oath
d) Herophilos' oath

6. Optometrists have separate oath to abide by
 a) True
 b) False
7. " _____ " means actual and/or physical damage to tangible property.
 a) Damage
 b) Insurance
 c) Accident
 d) Perjury
8. MK Media stands for
 a) McKarey Kaufman
 b) Macullum Krisby
 c) Methamphetamine potassium
 d) None of the above
9. Artificial corneal fitting is called
 a) Keratoplasty
 b) Keratography
 c) Pseudo keratotomy
 d) Keratoprosthetics
10. HIPAA was passed in the year
 a) 1994
 b) 1992
 c) 1996
 d) 1991

PART - B

Answer any SIX out of EIGHT

[6x5=30]

1. What are consumer rights? Write the basic consumer rights
2. What are the implied promises made by the traders to their clients?
3. Differentiate between professional negligence and medical malpractice
4. HIPAA
5. Describe the basic principles of ethics.
6. Elicit the duties of any medical practitioner towards patients
7. Differentiate between civil law and criminal law
8. Write a short note on code of ethics.

PART - C

Answer any THREE out of FOUR

[3x10=30]

1. Elaborate on informed consent with relevance to your clinical practice.
2. Explain Euthanasia and categorize the types.
3. State the difference between medical law and medical ethics. State the Indian Medical Act. Write the stepwise framework of how ethical analysis and decision making is done.
4. Elaborate on non-maleficence and beneficence in terms of your clinical practice.



ARKAJAIN
University
Jharkhand

6th Semester End Term Examination: 2021-22.

Subject : Occupational Optometry

Roll No:

Course : B. Optometry

Full Marks : 70

Time : 3 Hours.

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PART - A

Multiple Choice Questions

[10x1=10]

1. Which of the following is not a hazard of UV radiation?
a) Miosis
b) Photophthalmia
c) Cataract
d) Pterygium
2. Asthenopia symptoms include
a) Fatigue
b) Nausea
c) Headache
d) All of these
3. Asthenopia symptoms is caused by
a) Convergence abnormalities
b) Both of these
c) Headache
d) None of these
4. _____ suffer from asthenopic symptoms of
a) 10%
b) 30%
c) 20%
d) 40%
5. Ocular status includes
a) Minor refractive
b) Convergence insufficiency
c) Astigmatism
d) All of these
6. Stress can increase the risk of CVS
a) True
b) False

7. Workstation design includes
- a) Lighting
 - b) Visual display
 - c) Glare
 - d) All of these
8. Glare is caused by
- a) Shadow
 - b) Bright source of light
 - c) Pen torch
 - d) None of these
9. To reduce glare
- a) Position VDU away from windows
 - b) Use filters
 - c) Window adjustment
 - d) All of these
10. To eliminate screen reflection use
- a) Filter Panel
 - b) All of these
 - c) ARC coating
 - d) None of these

PART - B

Answer any SIX out of EIGHT

[6x5=30]

1. Define occupational hygiene and the different components of it.
2. Explain how colour coding helps in various work places.
3. State the Factories' law
4. Explain visual demands in sports in brief with a few examples
5. What are the characteristics of a good protective equipment, briefly explain?
6. How workstation adjustments can reduce glare?
7. Explain vision specific standards and preventive measure in fire crew.
8. Write the objectives of MOLE.

PART - C

Answer any THREE out of FOUR

[3x10=30]

1. What are VDUs? Explain the repercussions of prolonged usage of VDUs. Elaborate on how to prevent eyes from CVS?
2. What is the electromagnetic spectrum composed of? Name the various radiations and their effect on human health, specifically the eyes.
3. Elaborate on the occurrence of ocular injuries and hazards. Categorize the types of ocular injury.
4. What is industry-based vision screening? What is visual task analysis? With reference to the following sports, explain the visual needs-
 - a. Swimming
 - b. Rifle shooting



ARKAJAIN
University
Jharkhand

6th Semester End Term Examination: 2021-22.

Subject : Practice Management

Roll No:

Course : B. Optometry

Full Marks : 70

Time : 3 Hours.

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PART - A

Multiple Choice Questions

[10x1=10]

1. ABC analysis is based on which principle
a) Pareto Principle
b) Retro Principle
c) Both A & B
d) None of the above
2. Which is not the function of practice manager?
a) Appointment Scheduling
b) Organizing Patient Data
c) Hold Regular Meetings
d) Providing food to patient
3. How many heads of income are there to compute gross total income of an assessee?
a) Three
b) Four
c) Five
d) Six
4. When Income Tax was levied in India first time?
a) In 1860
b) In 1886
c) In 1918
d) In 1961
5. Sum of various heads of income is called
a) Gross total income
b) Total income
c) Taxable income
d) Aggregate income
6. According to which accounting concept the owner and business are to be treated separate?

- a) Accrual
c) Business Entity
- b) Historical Cost
d) Dual Aspect
7. According to which concept, life of the business is uncertain and it is started with an intention that it will continue to exist for a long and unidentified period of time?
a) Business Entity
c) Historical cost
- b) Going Concern
d) Accrual
8. Outstanding expenses are accounted in the books of accounts due to which accounting concept?
a) Going Concern
c) Revenue recognition
- b) Accrual
d) Business entity
9. Which of the following is not concerned with staffing?
a) Recruitment
c) Training
- b) Selection
d) Publicity
10. Which of the following is not a process of selection?
a) Testing
c) Attitude formation
- b) Checking references
d) Medical examination

PART - B

Answer any SIX out of EIGHT

[6x5=30]

1. What are the responsibilities of Practice Manager?
2. Write down the important work of Practice Manager.
3. What do you mean by personal values?
4. Write down the Cultural issues in the healthcare environment.
5. What do you mean by Tax Evasion and Tax Planning?
6. What do you mean by Book-keeping?
7. Discuss the external sources of recruitment.
8. What do you mean by ethical and moral values of practices manager.

PART - C

Answer any THREE out of FOUR

[3x10=30]

1. Write your Business plan, just like every other type of business, related to your optometry practice.
2. What do you mean by Recruitment, Selection and Training & Development.
3. What do you mean by optimal optical inventory?
4. Write short notes on following terms: -
 - a) Going concern concept
 - b) Separate legal entity
 - c) Accrual Concept
 - d) ABC Analysis
 - e) Full Disclosure Concept
 - f) Money Measurement Concept



6th Semester End Term Examination: 2021-22.

Subject : Public health & Community Optometry Roll No:
Course : B. Optometry
Full Marks : 70 Time : 3 Hours.

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Multiple Choice Questions

PART - A

[10x1=10]

1. Vitamin A has _____
a) Thiamine
c) Niacin
b) Retinol
d) All of the above
2. The tagline of vision 2020 is
a) Right to slight
c) Vision for everyone
b) Right to Vision
d) So that all may see
3. Conjunctival xerosis is a sequela in
a) Trachoma
c) DR
b) Oncocerciasis
d) Xerophthalmia
4. Vision 2020 targets to eradicate _____
a) Cholera
c) Malaria
b) Avoidable blindness
d) Hemianopia
5. _____ is when more than one disease is screened at a single site
a) Multi Programmed
c) Multi Structured
b) Multi Screening
d) Multi Phasic
6. Which of the following statements truly define community Based Rehabilitation?

- a) The art and science of preventing disease, prolonging life and promoting health through the organized efforts of society
- b) Strategy between general community development for the rehabilitation, equalization of opportunities and social inclusion of all people with disabilities
- c) A social group with a common territorial base; those in the group share interests and have a sense of belonging to the group
- d) Unpaid work that benefits people and organizations in the community
7. IAPB stands for -
- a) Indian Association for Protection against Blindness b) Institute Against Preventable of Blindness
- c) Institute Against Preventable Blindness d) International Agency for the Prevention of Blindness
8. _____ should perform the initial screening in school screening programs
- a) Ophthalmic surgeons b) Teachers
- c) Optometrists d) Community health workers
9. Which of the following are principles of Public Health?
- a) Equity b) Prevention
- c) Both a & b d) Employment
10. The act of looking at the actual cause of a disease rather than following the features after a disease has manifested is called
- a) Upstream approach b) Downstream approach
- c) Susceptibility d) Health Promotion

PART - B

Answer any SIX out of EIGHT

[6x5=30]

1. Explain the different phases of prevention
2. Discuss the following as health determinants in public health concept
 - a. Environment quality
 - b. Lifestyle
3. Compare the previous and current health concepts
4. Elicit the importance of screening ocular diseases
5. Write the objectives of Vision 2020.
6. Elicit the various criteria that any screening tests should meet in a screening program
7. community based rehabilitation
8. Explain how vision and ocular status is of utmost priority in primary health care check-up.

PART - C

Answer any THREE out of FOUR

[3x10=30]

1. What is the significance of vitamin A in ocular physiology? Discuss the sequelae of vitamin A deficiency as per WHO standards. What do vitamin A prophylaxis approach involve?
2. Write an essay on vision screening in schools elaborating on the significance of refractive error and amblyopia in the school going age group.

3. Discuss how to manage the manpower and human resources in community optometry.

4. Why is it important to screen cataract patients in the outreach community? Name a few organizations that support cataract screening and surgery.



6th Semester End Term Examination: 2021-22.

Subject : Binocular vision
Course : B. Optometry
Full Marks : 50

Roll No:

Time : 3 Hours.

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PART - A

Multiple Choice Questions

[10x1=10]

1. In complete third nerve paralysis the direction of the affected eye in the primary position is:
a) Inward
b) Outward
c) Outward and up
d) Outward and down
2. All the following are extra ocular muscle of eye except:
a) Superior rectus
b) Ciliary muscle
c) Inferior oblique
d) Superior oblique
3. The action of superior rectus is :
a) Elevation, Intorsion, Abduction
b) Elevation, Intorsion, Adduction
c) Elevation, Extortion, Adduction
d) Elevation, Intorsion, Adduction
4. The only extra ocular muscle which does not arise from the apex of the orbit is:
a) Superior rectus
b) Superior oblique
c) Inferior oblique
d) Inferior rectus

Answer any TWO out of FOUR

1. Write about the various management of Amblyopia.
2. Write about the classification of Strabismus.
3. Write about routine Orthoptic examinations.
4. Write in brief about divergent strabismus.

5. In concomitant squint
 - a) Primary deviation > Secondary deviation
 - b) Primary deviation < Secondary deviation
 - c) Primary deviation = Secondary deviation
 - d) None of the above
6. In paralytic squint, the difference between primary and secondary deviation in the gaze of direction of the paralytic muscle:
 - a) Increases
 - b) Decreases
 - c) Remains the same
 - d) None of these
7. The best treatment for amblyopia is:
 - a) Orthoptic exercises
 - b) Occlusion
 - c) Surgery
 - d) Best treat after age 10 years
8. A change in the relative magnification at the fixation point of the two eyes will result in which of the following changes?
 - a) No change on the y-intercept
 - b) Tilting of the horopter
 - c) A negative slope value
 - d) An increase in the abathic distance
9. Which of the following statement is false regarding corresponding points?
 - a) Corresponding points are typically perceived as the same distance from the subject
 - b) Corresponding points give rise to the same visual direction
 - c) The geometric representation of corresponding points is referred to as the Vieth Muller Circle
 - d) The Hering Hillebrand Horopter deviation is calculated when the corresponding points on the Horopter are evenly spaced
10. Which of the following conditions describe objective visual space?
 - a) Boundaries are finite; when objects move around they can change shape and size
 - b) The area from object to the retina
 - c) Boundaries infinite and measurable space; when objects move around they stay the same size an shape
 - d) It is composed of 3 parts the body space and the peripersonal space and extra personal space

PART - BAnswer any FOUR out of SIX

[4x5=20]

1. Write in brief about the importance of history taking in Orthoptics.
2. Write in brief about essential infantile esotropia.
3. Explain about Prism bar cover test and Remy Separator.
4. Investigation and management of A& V pattern.
5. Explain about Duane's Retraction Syndrome.
6. Write the significance of Diplopia charting.



ARKAJAIN
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Jharkhand

6th Semester End Term Examination: 2021-22.

Subject : Contact Lens II
Course : B. Optometry
Full Marks : 50

Roll No:

Time : 3 Hours.

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PART - A

Multiple Choice Questions

[10x1=10]

1. HEMA (Hydroxy ethyl methacrylate) belongs to the under FDA classification
a) Group-I
b) Group-II
c) Group-III
d) Group-IV
2. Normal tear break-up time is
a) 10 Seconds
b) 45 Seconds
c) 45 Seconds
d) 15 to 45 Seconds
3. By push-up test one usually measures
a) Fitting of the lens
b) Wettability of the lens
c) Power of the lens
d) Material property of the lens
4. LARS rule is applied in assessing the fitting of
a) Spherical soft contact lens
b) Toric soft contact lens
c) Spherical RGP lens
d) Multifocal lenses
5. Tinted contact lens can be given in all except
a) Albinism
b) Amblyopia
c) Aniridia
d) Keratoconus

6. Piggyback-I lens refers to
- a) Soft over RGP
 - b) RGP over soft
 - c) Soft over soft
 - d) None of these
7. Enhanced monovision contact lens refers to
- a) Single vision lens in one eye and bifocal in the other eye
 - b) Bifocal lenses in both eyes
 - c) Single vision lenses in both eyes
 - d) None of these
8. Therapeutic contact lenses are given in all except
- a) Trichiasis
 - b) Bollus keratopathy
 - c) Post LASIK
 - d) Chalazion
9. Rose K lenses are mainly used for
- a) Post LASIK
 - b) Keratoconus
 - c) High astigmatism
 - d) All of these
10. Keratoconus shows presence of all except
- a) Munson sign
 - b) Vogt's striae
 - c) Kruk Enberg spindle
 - d) All of these

PART - B

Answer any FOUR out of SIX

[4x5=20]

1. Toric soft contact lens stabilization technique.
2. Give the uses of tinted contact lens.
3. Write briefly about Hybrid lenses.
4. Bifocal contact lens.
5. Therapeutic Contact lens
6. Write about insertions and removal techniques of soft contact lens.

PART - C

Answer any TWO out of FOUR

[2x10=20]

1. Find out Contact lens power for following prescriptions (vertex distance = 14 mm)
 - a) -12.00DSPH/-4.00DCYLx90
 - b) +10.00DSPH/-5.00DCYLx135
2. What are the prefitting parameters required prior to fitting a contact lens in a child? Briefly describe CL fitting procedure in children.
3. Give four advantages of Silicon Hydrogel over Hydrogel contact lenses. Describe with details any two hypoxic complications of soft contact lenses.
4. Write about the types of tinted contact lens and their uses. Describe the simultaneous vision contact lens in presbyopia.