Question Paper

Exam Date & Time: 20-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. (RT/ MIT/EMT/BPT/CVT/RRT & DT/BOT/AOTT/ PHYSICIAN ASSISTANT/BPO) DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: ANA1201/ ANA1205 - ANATOMY - II
(2020/2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	Describe the arches of foot and mention their applied anatomy (8+2 = 10 marks)	(10)
2)	Describe the median nerve under following headings A) Origin B) Root value C) Course D) Distribution E) Applied anatomy (1+1+2+5+1 = 10 marks)	(10)
3A)	Popliteal fossa	(5)
3B)	Deltoid muscle	(5)
3C)	Sciatic nerve	(5)
3D)	Elbow joint	(5)
4A)	Brachial artery	(2)
4B)	Femur	(2)
4C)	Buccinator muscle	(2)
4D)	Median cubital vein	(2)
4E)	Femoral sheath	(2)

-----End-----

Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BOT DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: OCT1201 - ASSESSMENTS IN OCCUPATIONAL THERAPY - I
(2020 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	Explain the strategies for evaluating client factors in the occupational therapy evaluation process.	(10)
2)	Describe the skills of effective interviewing.	(10)
3A)	Define goniometry. Using a labeled diagram, state the uses of the parts of the goniometer. (1+4 = 5 marks)	(5)
3B)	Describe the steps for assessing the quadriceps reflex and achilles reflex.	(5)
3C)	Explain the steps involved in manual muscle testing.	(5)
3D)	Define 'proprioception' and 'kinesthesia'. Outline the non-standardized methods of testing for the same. (2.5+2.5 = 5 marks)	(5)
4A)	Define 'care maps' and state its purpose in the occupational therapy process. (1+1 = 2 marks)	(2)
4B)	List four types of information that constitute the occupational profile.	(2)
4C)	Explain two-joint muscles with an example.	(2)
4D)	List any two causes of muscle weakness.	(2)
4E)	Describe the Moberg pick-up test and its purpose.	(2)

-----End-----

Question Paper

Exam Date & Time: 22-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. (NMT/RTT MIT/EMT/BPT/BOPT/CVT/RRT & DT/BOT/AOTT/ PHYSICIAN ASSISTANT/BPO/PFT/MLT/RESPIRATORY THERAPY) DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: PHY1201 - PHYSIOLOGY - II
(2020/2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

Write brief, clear and legible answers.
Illustrate your answers with diagrams and flow charts wherever appropriate.

1)	Name the functional divisions of cerebellum. Enumerate the functions of each lobe of cerebellum. Add a note on clinical features of cerebellar lesion. (2+5+3 = 10 marks)	(10)
2)	Describe the actions of growth hormone. Explain the regulation of secretion of growth hormone. Add a note on the cause and clinical features of gigantism (4+3+3 = 10 marks)	(10)
3A)	Enumerate any FOUR functions of saliva. Add a note on Xerostomia (4+1 = 5 marks)	(5)
3B)	Describe the renal tubular reabsorption of glucose.	(5)
3C)	Draw a labeled diagram of the lateral spinothalamic pathway and mention any two sensations carried by the same.	(5)
3D)	Describe the uterine endometrial changes during menstrual cycle	(5)
4A)	List any TWO clinical features of Parkinson's disease	(2)
4B)	List any TWO properties of receptors	(2)
4C)	Enumerate any TWO functions of gall bladder	(2)
4D)	Define Renal clearance. Mention the substance used for the estimation of GFR	(2)
4E)	List the indicators of ovulation	(2)

-----End-----

Question Paper

Exam Date & Time: 24-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BACHELOR IN PROSTHETICS AND ORTHOTICS DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BPO1201 - BIOMECHANICS - I
(2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	What is stance gait phase? Explain with the help of a diagram.	(10)
2)	Explain the complexity of joint design with examples.	(10)
3A)	What is PTB-SC socket design used for? Explain with clinical examples.	(5)
3B)	Explain in detail the coupled movements of supination in foot.	(5)
3C)	Explain the different pressure sensitive areas to design an ankle foot orthosis with the help of a diagram.	(5)
3D)	Describe the alignment of a prosthesis.	(5)
4A)	Define Newton's law of inertia.	(2)
4B)	Name any two force directions acting on AFO with anterior shell.	(2)
4C)	What is lever arm?	(2)
4D)	Write the ROM of knee joint.	(2)
4E)	What is gravity reaction force?	(2)

-----End-----

Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BACHELOR IN PROSTHETICS AND ORTHOTICS DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BPO1202 - BASIC ELECTRONICS
(2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	What is an intrinsic semiconductor, and how does doping cause the production of extrinsic semiconductors? Distinguishes between intrinsic and extrinsic semiconductors.	(10)
2)	What is the definition of a transformer? Explain how various transformer various types are built and how they operate.	(10)
3A)	Explain the fundamentals of generating alternating current and voltage using a simple diagram.	(5)
3B)	Describe the operation of the EEG recording device.	(5)
3C)	Using a clear illustration, describe how a wattmeter operates.	(5)
3D)	What is the definition of a transducer? Explain sound and light transducers.	(5)
4A)	What is a semiconductor of the p and n types, and how are they made?	(2)
4B)	What kinds of oscillators exist? Give a few examples of oscillator applications.	(2)
4C)	An amplifier has an open loop gain of 100. When the amplifier is given a 0.5 negative feedback, what will be the total gain?	(2)
4D)	List the various varieties of stethoscopes.	(2)
4E)	What are muscular action potential's three phases?	(2)

-----End-----

Question Paper

Exam Date & Time: 29-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BACHELOR IN PROSTHETICS AND ORTHOTICS DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BPO1203 - PROSTHETIC SCIENCE - IB
(2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	Explain the different gait deviations in transtibial prosthesis during swing phase.	(10)
2)	Explain hard frame sockets for below knee amputees.	(10)
3A)	What are the characteristics of a definitive prosthesis?	(5)
3B)	Compare and contrast articulated and non-articulated foot pieces.	(5)
3C)	Explain the difference between sleeve suspension and silicone suction suspension.	(5)
3D)	Explain the activity levels.	(5)
4A)	List any four tools required during prosthetic assessment and measurement.	(2)
4B)	Mention any two uses of pylon.	(2)
4C)	What would you prescribe for a TT amputee with >15° knee hyperextension?	(2)
4D)	Name the pressure sensitive areas in a transtibial stump.	(2)
4E)	Expand IPOP and mention its use.	(2)

-----End-----

Question Paper

Exam Date & Time: 31-May-2024 (10:00 AM - 12:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BACHELOR IN PROSTHETICS AND ORTHOTICS DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BPO1204 - ORTHOTIC SCIENCE - IB
(2022 SCHEME)

Marks: 50 **Duration: 120 mins.**

Answer all the questions.

1)	Compare and Contrast articulated and non articulated AFOs.	(10)
2)	Explain the significance of ankle joints in orthotic devices.	(10)
3A)	List difference between conventional and modular ankle foot orthosis.	(5)
3B)	Explain how ankle support devices aid in preventing re-injury and promoting healing.	(5)
3C)	Explain the role and benefits of fracture bracing in management of bone fracture.	(5)
3D)	What are the common challenges associated with anaesthetic foot?	(5)
4A)	Define donning and doffing.	(2)
4B)	What are semi-rigid materials?	(2)
4C)	What are the coupled motions in supination twist?	(2)
4D)	Which orthosis is prescribed for the management of metatarsalgia?	(2)
4E)	What are the two types of ankle joints commonly used in orthotics devices?	(2)

-----End-----