

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1123]

NOVEMBER 2023

Sub. Code: 2481

BACHELOR IN PROSTHETICS AND ORTHOTICS

FOURTH YEAR (Regulation 2017-2018 onwards)

PAPER I – PROSTHETICS SCIENCE - IV

Q.P. Code: 802481

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Discuss the three stage casting technique for Canadian type hip disarticulation prosthesis. Explain the procedure to locate the geometrical position of prosthetic hip joint in Canadian type hip disarticulation prosthesis with neat sketches.
2. Discuss the prosthetic management for a new bilateral amputee (48 years old) due to a train accident three years ago, with right side Syme's amputation with intact distal end-bearing condition and left side standard length Transfemoral amputation. Give rationale for prescription of each prosthetic component.
3. Define Van Nes Rotation plasty. Explain prosthetic management for Rotation Plasty in details with neat sketch.

II. Write notes on:

(8 x 5 = 40)

1. Rationale of trimlines of Canadian hip disarticulation prosthetic socket with neat sketch.
2. Sports prosthesis for Swimming.
3. Radcliffe's theory for "Zone of Stability" with neat sketch.
4. Aitkin classification of Longitudinal deficiency of the femur.
5. Coronal plane stability in hip disarticulation prosthesis during stance phase with neat sketch.
6. Types of classification systems for lower limb congenital limb deficiencies.
7. Placement of prosthetic hip joint in Hemipelvectomy with neat sketch.
8. Carlson and Wood's Trans lumbar prosthesis with neat sketch.

III. Short answers on:

(10 x 3 = 30)

1. Letts and Vincent classification of fibular deficiencies.
2. Saucer type Hip disarticulation prosthesis.
3. Vertical shock absorber.
4. Silicone Bikini socket.
5. Suspension for bilateral transfemoral prosthesis.
6. 7E7 Modular prosthetic hip joint.
7. Prosthetic consideration for lower extremity child amputee.
8. Suspension system for Hip disarticulation prosthesis.
9. Factors affecting instability of prosthetic hip joint during gait.
10. Ossur Flex-Run foot.
