**IQRA NATIONAL UNIVERSITY**

**DEPARTMENT OF ALLIED HEALTH SCIENCES**

**Final-Term Examination (Spring-20) (DPT 6TH)**

**Course Title: Physical Agents and Electrotherapy-ll Instructor: Ms. Maria Feroze**

 **Time: 6 hours Max Marks: 50**

**Note:**

* **This paper has two sections, sec A and sec B. Attempt both sections.**
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**SECTION-A: MULTIPLE CHOICE QUESTIONS (MCQs)**

1. Romans used baths for:
	1. Immersion
	2. Hygiene
	3. Pleasure
	4. None of the above
2. The goal of hydrotherapy is to improve the circulation and quality of blood, for getting this goal one needs?
	1. Proper circulation
	2. Cold water
	3. Hot water
	4. Food on time
3. Regarding the physical properties of water moving water can transfer heat by\_\_\_\_\_\_\_\_\_\_\_\_
4. Water cannot transfer heat
5. Conduction
6. Convection
7. Radiation
8. The thermal conductivity of water is approximately \_\_\_\_\_\_\_\_\_\_\_\_that of air
9. 4 times
10. 16 times
11. 2.5 times
12. 25 times
13. \_\_\_\_\_\_\_\_\_\_\_ is the upward force generated by the volume of water being displaced.
14. Resistance
15. Hydrotherapy
16. Buoyancy
17. Torque
18. Kevin, a 34 years old football player, comes to your clinic with an acute sprain injury. Your clinical supervisor tells you to control the swelling and pain with ice, on the basis of the evidence (studies) you have what will be the right application of ice?
19. Single 20-minute
20. Two repetitions of 10 minutes off and 10 minutes on
21. Four repetitions
22. I will refer this patient to medical doctor
23. Infrared rays are electromagnetic waves with wavelengths of?
24. 75 nm- 4000 nm
25. 7.5 nm- 4000 nm
26. 750 nm- 400000 nm
27. 600 nm- 400000 nm
28. Non- luminous generator provide \_\_\_\_\_\_\_\_\_\_
29. Infra-red rays
30. UV rays
31. Visible light
32. All of the above
33. If you need both infra-red and UV rays the best option to use is?
34. Luminous generator
35. Non- luminous generator
36. Both can be used
37. Direct current
38. Specific gravity of a person increases when?
39. Bone mass is decreased
40. Muscle mass is decreased
41. Increase in adipose tissue
42. None of the above
43. The distance of Infra-red lamp from the patient should be measured. It is usually\_\_\_\_\_\_\_\_\_\_\_ according to the output of the generator.
44. 5-17 cm
45. 50-555 cm
46. 5.0-7.5 cm
47. 50-75 cm
48. The human body has a specific gravity of\_\_\_\_\_\_\_\_\_\_\_\_\_\_
49. 8 – 0.9
50. 00.80 – 00.90
51. 0.87 – 0.97
52. 0.40 – 0.90
53. Regarding the duration of infrared treatment for acute inflammation or recent injuries and for the treatment of wounds, an exposure of \_\_\_\_\_\_\_\_\_\_\_\_\_is adequate.
54. 1-2 days
55. 1-2 weeks
56. 1-2 months
57. 10-15 minutes
58. All of the following are the therapeutic effect of local tissue heating Except?
59. Healing
60. Control of infection
61. Relief of pain
62. Both A and B
63. None of them
64. When a body part immersed in fluid is at rest, the fluid will exert equal pressure on all surface areas at a given depth. This is \_\_\_\_\_\_\_
65. Buoyancy
66. Archimede’s Principle
67. Pascal’s law
68. Force law
69. Any condition in which increased metabolic rate, cell activity and local blood flow are beneficial could be appropriately treated by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
70. Cold water
71. Ice
72. Mild heating
73. Increased heating
74. The stimulation of sensory heat receptors may activate the\_\_\_\_\_\_\_\_\_\_\_ for the relief of pain.
75. Muscles contractures
76. Ligands gate mechanism
77. Primitive reflexes
78. Pain gate mechanism
79. \_\_\_\_\_\_\_\_\_\_is a water bath in which the water is agitated by the electric turbine
80. Hubbard tank
81. Heating tank
82. Whirlpool
83. Hot bath
84. Both B and C
85. Fungal infections which are difficult to control are sometimes treated with regular heat; what seems to be the effective factors of heating?
86. Thorough drying of the skin surface
87. Local vasodilatation
88. Systemic vasoconstriction
89. Both A and B
90. Regarding shortwave, the electrodes are placed on the same side of the part to treat more superficial structure. This is called \_\_\_\_\_\_\_\_
91. Contra-planar
92. Coplanar
93. Cross-fire
94. Longitudinal
95. Viscosity is temperature dependent so raising the temperature in liquids will?
96. Increase fluid movement
97. Decrease fluid movement
98. Increase viscosity
99. Both A and C
100. Ultra-violet lies between \_\_\_\_\_\_\_\_\_\_\_\_\_\_and X-ray in the electromagnetic spectrum
101. Visible light
102. Infra-red
103. Microwave
104. Ultraviolet
105. Shortwave goes deep, its penetration is up to?
106. 4cm
107. 5cm
108. 6cm
109. 8cm
110. A physical therapist assistant is discussing a topic with the students of DPT, giving the instructions that it may penetrate as far as the capillary loops in the dermis, what he is talking about?
111. UV-C
112. UV-B
113. UV-A
114. UV-D
115. Which of the following is not included in diathermy family?
116. Microwave
117. Ultrasound
118. Shortwave
119. Infrared
120. Direct penetration of the HeNe laser at 1mW is said to be about approximately \_\_\_\_\_\_\_\_
121. 0.2mm
122. 0.5mm
123. 0.8mm
124. 12mm
125. Being a physical therapist if you are using UV light for a condition, what will be the optimum course of treatment?
126. 4 weeks
127. 6 Weeks
128. 4 months
129. Depends on the condition
130. All of the following are the Indications for Spinal Traction Except?
131. Disk herniation
132. Muscle strain
133. Osteoporosis
134. Degenerative joint diseases
135. Process of drawing or pulling apart of a body segment is?
136. Traction
137. Spinal traction
138. Compression
139. Spinal compression
140. \_\_\_\_\_\_\_\_\_\_\_waves have been reported to penetrate as deep as 4-6 cm into the tissues
141. Infra-Red
142. Micro
143. Ultrasound
144. None of them
145. To treat an infected Ulcer with UV-radiations, which one will be the best treatment option?
146. UV-D
147. UV-A
148. UV-B
149. UV-C
150. As a physical therapist you have much more knowledge about skin receptors, the following will reflect it, which one is true statement regarding skin receptors?
151. Warm receptors are several times more numerous than cold receptors
152. Cold receptors are several times more numerous than warm receptors
153. Cold and warm receptors are equal in quantity
154. Cold receptors sometimes work as warm receptors
155. When cold is applied in an appropriate way on the skin, it increases the excitatory bias around the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
156. Posterior horn cell
157. Anterior horn cell
158. Lateral horn cell
159. Basically around the ganglion
160. Regarding treatment of jaundice in babies with UV light, how long will it take to correct jaundice?
161. 24-48 hours
162. 24-72 hours
163. 24-48 hours
164. 72 hours only
165. In general use of UV light treatment, a target distance of skin from lamp is\_\_\_\_\_\_\_\_\_\_\_\_ assuming an angle of incidence of 90°.
166. 24-48 inches
167. 24-72 inches
168. 2-4 cm
169. None of the above
170. A patient presented to you after an hour of acute sprain injury; while your first goal is to decrease pain and swelling via cold therapy what will you use for the referenced therapy?
171. Ice
172. Cold water
173. Hot packs
174. All of the above can be used

**SECTION – B**

Q1. Briefly explain how hydrotherapy produces:

* 1. **Musculoskeletal effects:**

 the byoncy effect of water can rduce the weight of bones and muscles water. In bouncy all anatomical structure **E.g.** acid joints and muscles sensitive for weight bearing when immerse thses joints in water .due to byoncy property of water you will feel less weight because water exert upword thrust force couse of wich yo will feel less weight . due to heat effect it will decrese pain,increase blood flow,and can be usefull foe decreseing sweeling .we apply this in arthritis,musculoskeletal insatabilty or in the breake down of cartilage and also which generate or tramatic condition and through this we can get best resultl .when articular or periartial structures get demaged for recovering we can use it to have good result . .if imerse the 75 % of body in water weigt also decresed upto 75%. benficail for obese patient as well.and it could be helful in return to full function.

* 1. **Cardiovascular effects:**

If we immers the body in water as the water exert hydrostastic pressure on body will be exerted on lower xtremety as well . then the vinous blood will move prximally or upword due to which cardiac volume will get increase , stroke volume and have to increase the blood ouput as well due to vasodilation .

* 1. **Respiratory effects:**

 It has hiuge effect on our respiratory sysyte. If we imerse the whole body in water water will get the exert pressure on the chest nd will generate force on our lung and give resistance the lungs. During t body in water the lungs don’t fully expand and lungs capacity decreases nd lungs have to try hard for the improvement of breathing.

But the scene can be change in some severe patient to whom we don’t have to give exercise for prolong period of time cuz lungs are generate more force to breath already the patient could be in sevare in severe condition and exercises could be harmful for it.

If there is short hydrostatic pressure increases in cardiac volume nd circulation will increased as well.

 The Vital capacity of lungs will decreases due to insertion of high hydrostatic pressure.

The execise could be benifial inducing asthema . the land water could be more usefull for asthematic patient as compared to swimming pol water cosenit has low pressure .