The Aviation Medicine Quiz

Dear Friends,

Here is a set of questions related to Acceleration Physiology. Each correct answer carries one point. Go through the questions, select the most appropriate response and rate yourself. The correct answers are provided on page number 72.

1. What is the exact value of ‘acceleration due to gravity’?
   (a) 9.79 m/sec²  (b) 10.89 m/sec²  (c) 9.81 m/sec²  (d) 9.89 m/sec²

2. What is the direction of the resultant inertial force in +Gx acceleration?
   (a) Chest to back  (b) Back to chest  (c) Right to left  (d) Foot to head

3. What is the lowest value of ‘+Gz’, at which G-LOC has been reported?
   (a) 2.9  (b) 2.7  (c) 3.0  (d) 3.2

4. What is the gradient of pleural pressure at apex and base of the lung at 1G environment?
   (a) 5.5 cm of water  (b) 6 cm of water  (c) 5 cm of water  (d) 6.5 cm of water

5. What is the maximum concentration of Nitrogen required in gas breathed before exposure to acceleration in order to prevent significant acceleration atelectasis?
   (a) 35%  (b) 40%  (c) 45%  (d) 50%

6. Carbogen mixture containing 7.6% of CO₂ increases G tolerance by
   (a) 1G  (b) 0.7G  (c) 0.5G  (d) 0.2G

7. What is the protection given by optimally performed ‘AGSM’?
   (a) 3G  (b) 5G  (c) 4G  (d) 3.5G

8. MKII cut away type (Indigenous) anti-G suit given a protection of
   (a) 1.8 to 2G  (b) 2 to 3G  (c) 1 to 1.5G  (d) 0.5 to 1G

9. Which is the best ‘AGSM’ compatible with ‘PBG’?
   (a) L1  (b) M1  (c) Hook  (d) Qi-gong

10. What will be the weight of 80 Kg man at -2Gz?
    (a) Zero  (b) 160 Kg  (c) 40 Kg  (d) 80 Kg

11. What is the maximum PBG that can be given with mask without counter pressure garment?
    (a) 50mm of Hg  (b) 40mm of Hg  (c) 20mm of Hg  (d) 30mm of Hg
12. With PPB, which of the following decrease?
   (a) RV  (b) ERV  (c) TV  (d) IRV

13. What is the average, relaxed G tolerance (ROR) of an individual?
   (a) 4.8 ± 0.7G  (b) 3.1 ± 0.7G  (c) 4.1 ± 0.7G  (d) 5.4 ± 0.7G

14. Average incapacitation time following unexpected G-LOC is?
   (a) 15 to 17 Sec  (b) 18 to 20 Sec  (c) 22 to 24 Sec  (d) 10 to 12 Sec

15. 1°C rise of core body temperature reduces acceleration tolerance by?
   (a) 20 to 30%  (b) 30 to 40%  (c) 40 to 50%  (d) 25 to 30%

16. What is the level of impact force that a human brain can tolerate without skull fracture?
   (a) 200 to 300G  (b) 300 to 400G  (c) 400 to 500G  (d) 100 to 200G

17. Who was the first to notice physiological effects of sustained acceleration?
   (a) Charles Darwin  (b) Erasmus Darwin  (c) Paul Bert  (d) Jimmy Doolittle

18. What is ‘High Sustained G’?
   (a) 6G and above for >15 Sec  (b) 7G and above for >15 Sec
   (c) 6G and above for >30 Sec  (d) 6G and above for >30 Sec

19. 45° reclining seat gives a ‘+Gz’ protection of-
   (a) 0.5G  (b) 1.0G  (c) 0.75G  (d) 1.5G

20. In SU-30 aircraft the ratio of pressure in mask and pressure suit is-
   (a) 1 : 3.2  (b) 1 : 2.5  (c) 1 : 4.0  (d) 1 : 5.0

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