1. Testosterone is converted to ________________ by the enzyme ________________, which is inhibited by ________________. This drug is used to treat _____________.

2. List the following hormones in order of decreasing potency: testosterone, DTH, androstenedione.

3. Testosterone and androstenedione are converted to ________________ in ________________ tissue by the enzyme ________________.

4. Name at least 4 target tissues that androgens act on:

5. Name at least 4 functions of androgens:

6. FSH stimulates ________________ cells to produce ________________, which inhibits ________________ secretion from the ________________.

7. LH stimulates ________________ cells to produce ________________.

8. MIS secreted by ________________ cells suppresses development of ________________ ducts in males.

9. The blood-testis barrier is created by ________________ between Sertoli cells.

10. The middle piece (neck) of sperm is rich in ________________. Sperm food supply is ________________.

11. The name of the plexus of veins that returns blood from the scrotum and testes is the ________________.

12. Erection is under control of the ________________ nervous system while ejaculation is under the control of the ________________ nervous system.

13. An undescended testicle is referred to as being ________________. This condition increases the risk of later developing _________________. What is the main reason for surgically bringing down an undescended testicle?

14. Sildenafil directly inhibits
   (A) cyclic GMP
   (B) cyclic AMP
   (C) phosphodiesterase type 5
   (D) PDE3
   (E) PGF2 alpha

15. Sildenafil is contraindicated in men who are taking
   (A) penicillin
   (B) nitroglycerin
   (C) atenolol
   (D) captopril
   (E) calcium channel blockers
16. A 56 year old man has Peyronie’s disease. He has a problem with:
   (A) inability to have an erection 
   (B) a bent penis 
   (C) a very short penis 
   (D) a very long penis 
   (E) no penis 

17. During development of the male embryo all of the following processes occur
   EXCEPT 
   (A) medullary sex cords develop and become the seminiferous tubules of the testis 
   (B) cortical sex cords develop and become the interstitial cells of Leydig 
   (C) a dense tunica albuginea develops and covers the testis 
   (D) the mesonephric duct develops into the ductus deferens and epididymis 
   (E) the paramesonephric duct regresses under the influence of MIS 

18. Which of the following factors most clearly rules out an organic cause of male impotence? 
   (A) Normal serum thyroxine 
   (B) Nocturnal erections 
   (C) Normal serum testosterone 
   (D) Normal serum prolactin 
   (E) Serum gonadotropins 

19. Use of anabolic steroids is associated with an increase in all the following characteristics EXCEPT 
   (A) spermatogenesis 
   (B) libido 
   (C) muscle strength 
   (D) bone mass 
   (E) sebaceous gland secretion 

Match the following descriptions with the appropriate disorder. 
   (A) Complete androgen resistance 
   (B) 5 alpha-reductase deficiency 
   (C) Testicular dysgenesis 
   (D) 17 alpha-hydroxylase deficiency 
   (E) 3 beta-hydroxysteroid dehydrogenase deficiency 

20. A genotypic male (XY) infant with male phenotypic internal reproductive tract 
    (epididymis, seminal vesicle, vas deferens) and ambiguous genitalia. 
21. A genotypic male (XY) infant with female phenotypic external genitalia characterized 
    by a vagina that ends as a blind sac (i.e., no internal reproductive tract). 
22. A genotypic male (XY) infant with female phenotypic internal and external reproductive system. 
23. A genotypic female (XX) born with female phenotypic internal and external reproductive system that fails to mature at puberty.