Question bank -Paper No . 12

Drugs acting on reproductive organs.

Name the following:

1.A non steroidal androgen antagonist used in prostate cancer.-(flutamide)

2.A non-steroidal estrogen of fungal origin.-(Zeranol)

3.A uterine relaxant primarily used as a saline purgative.-(Magnesium sulphate)

4.An alkaloid of fungal origin which stimulate uterine contraction.-(ergometrine)

5.First synthetic progestin.-(ethisterone)

6.Hormone responsible for seasonal breeding in goats.-(melatonin)

7.Hormone used to make 'teaser' animal to identify cows in oestrus.-(testosterone)

8.Hormones secreted by posterior pituitary.-(oxytocin, and anti diuretic Hormone)

9.Hormones produced by acidophil cells of pituitary .-(somatotropin and prolactin)

10.One non steroidal estrogen.-(diethyl stilbestrol)

11.One androgen receptor antagonist.—(finasteride)

12.One conjugated estrogen.-(Premarin)

13.One GnRH analogue.-(Leuprolide acetate)

14.One progesterone synthesis inhibitor.-(epostane)

15.One progesterone meant for oral administration.-(anhydroxy progesterone)

16.One antiprogestin .-(Mefepristone, RU-486)

17.One Beta 2 agonist with tocolytic action.-(salbutamol)

18.Other name of ergometrine.-(ergonovine)

19.Steroid from soya beans and calabar beans .-(Stigmasterol)

20.The conformational form of clomifen citrate acting as estrogen antagonist .-(trans)

21.The most potent amino acid alkaloid acting on uterus.-(ergometrine)

22.Three important group of drugs acting on genital tract.-(Hormones, Ecbolics, Tocolytics)

23.The three types of cells in adenohypophysis.-(Acidophil, Basophil, and Chromophob cells)

24.The active ingredient of Vetoestrol.-(diethyl stilbestrol).

25.Three natural oestrogen.-(oestradiol, estrone, estriol)

26.Three hormones other than estrogen from ovary .-(Testosterone, Inhibin, Relaxin)

27.Three drugs with tocolytic action.-(ethyl alcohol, mgnesium sulphate, salbutamol, nitrites,aspirin)

28.Three androgen, other than testosterone produced by testis .-(dihydro testosterone, androstenedione, dihydro epiandrosterone)

29.The other name of L H.-(Interstetial Cell Stimulating Hormone ICSH)

30.Two aromatase inhibitor.-(anastrozole, letrozole, exemestan)

31.Two progesterone receptor antagonist .-(mifepristone, onapristone)

32.Two selective progesterone receptor modulator with antagonistic as well as partial agonistic effect.-(ulipristal, asoprisnil)

33.Two selective androgen receptor modulators.-(andarine,ostarine)

34.Two 5 alpha reductase inhibitor.-(finasteride,dutasteride)

35.Two non pituitary gonadotropin of importance in veterinary practice-(PMSG, HCG)

36.Two steroidal synthetic estrogen.-(ethinyl estradiol, estradiol benzoate)

37.Two androgen receptor antagonist.-(cyproterone and flutamide)

38.Type of cells in adenohypophysis secrets somatotropin and prolactin.-(acidophils)

39.Type of cells in adenohypophysis secrets FSH and LH .-(basophils)

II.State true or false.

1.Abiraterone is a CYP 17A1 inhibitor with anti-androgenic activity.-(T)

2.Adrenal cortical disease can be due to over production of sex steroid by the adrenal. —(T)

3.ADH possess slight oxytocic activity.-(T)

4.All alkaloids of ergot is derived from LSD.-(T)

5.All types of cryptorchidism can be treated with testosterone –(T)

6.Aspirin can delay parturition.-(T)

7.Atosiban is an oxytocin antagonist.-(T)

8.As an ovarian stimulant Vetrophin is preferred over PMSG.—(T)

9.Among natural estrogens Estradiol is least potent.-(F)

10.Anabolic steroids are contra indicated in prostate cancer.-(T)

11.Anabolic steroids can be well recommended in breeding stock.-(F)

12.Anastrozole is an aromatase inhibitor which is responsible for the conversion of androgen to estrogen in peripheral tissues.-(T)

13.Aminoglutethamide ,an aromatase inhibitor blocks the conversion of androgen to estrogen.-(T)

14.Buserelin is a Gonadotropin releasing hormone agonist.-(T)

15.By injecting Growth hormone in rats, gigants can be created.-(T)

16.Catecholamine at physiological level markedly reduce oxytocin effect on uterus or udder.-(T)

17.Continuous administration of GnRH blocks Gonadotropin release.-(T)

18.Clomifen citrate disrupt the normal feed back inhibition of GnRH and Gonadotropins.-(T)

19.Cimetidine is having anti-androgen effect.-(T)

20. Clomifen citrate treatment may cause cystic ovary condition in some animals.-(T)

21.Clomifen can be indicated in low sperm count in males.-(T)

22.Contraceptive action of gossypol in male is permanent.-(F)

23.Continued use of HCG may cause production of anti-hormone.-(T)

24.Cleansing draught is a mixture of extract of Ergot, Mag. sulphhate and Tr. Zingiberis in water.-(T)

25.Danazol is a synthetic partial androgen receptor agonist.(T)

26.Dihydro epiandrosterone is powerful than androstenedione.-(F)

27.Diethyl stilbesterol is absorbed even through the skin .-(T)

28.Dilute magnesium sulphate can be used intravenously to stimulate uterine contraction.-(F)

29.Diethyl stilbestrol is active orally and parenterally.-(T)

30.Diltiazem is having tocolytic action.-(T)

31.Diethyl stilbesterol is less powerful than ethinyl estradiol.-(T)

32.Ecbolics are contraindicated in uterine inertia.-(T)

33.Ethinyl estradiol is very active orally since its inactivation by liver is slow.-(T)

34.Ergotamine group of alkaloids in ergot include-Ergotamine and Ergosine.-(T)

35.Ergotoxin group of alkaloids include Ergocrystine, Ergocryptine and Ergocornine.-(T)

36.Ergometrine is an aminoacid alkaloid.-(T)

37.Ergometrine is a potent alkaloid obtained from infected rye plants. —(F)

38.Ergotamine and Ergometrine group of alkaloids stimulates smooth muscles.-(T)

39.Ergotoxin group of alkaloids have less effect on smooth muscles except uterus.-(T)

40.Ergometrine stimulate uterine myometrium with less success in dogs .-(T)

41.Ergometrine is a potent antagonist of 5 HT.-(T)

42.Ethanol can be used as a tocolytic agent.-(T)

43.Estrogen is a steroidal compound.-(T)

44.Estrogen can cause bone marrow depression in dogs and cats.—(T)

45.Ethinyl estradiol is less powerful than estradiol.-(F)

46.Ergometrine stimulate intestinal smooth muscles and cause diarrhea.-(T)

47.Ergometrine in small doses increases the power and extent of rhythmic contraction of uterus.-(T)

48.Ergometrine stimulate the contraction of parturient and immediate post parturient uterus.-(T)

49.Estradiol valerate is used along with a progestin for estrous synchronization in ruminants.-(T)

50.Equine male urine and testis contain a good quantity of estrogen.-(T)

51.Five alpha reductase convert testosterone to more active dihydrotestosterone in the prostate..-(T)

52.Finasteride inhibits the formation of 5Alpha dihydro testosterone.—(T)

53.Finasteride is mainly used in the treatment of prostate hyperplasia.-(T)

54.Follicle stimulating hormone is a glycoprotein.-(T)

55.Flutamide is used in prostate cancer because of its anti androgen effect.-(T)

56.GnRH analogs inhibits synthesis of oestrogen from ovary .-(T)

57.GnRH analogs inhibits synthesis of oestrogen in adipose tissues.-(F)

58.Gonadotropin releasing hormone can be used in cystic ovary condition.-(T)

59.Gossypol impair sperm motility and density.-(T)

60.Gonadotropin releasing hormone will cause antihormone production in cow.-(F)

61.HCG can be used effectively in the treatment of cryptorchidism in dogs.-(T)

62.Higher dose of testosterone can be used to block spermatogenesis.-(T)

63.Human chorionic gonadotropin will not produce anti hormone production in cow.-(T)

64.Human chorionic gonadotropin is widely used in veterinary practice mainly due to low cost .-(T)

65.Human chorionic gonadotropins can be recommended in deficiency of male sex hormone.-(T)

66.Human chorionic gonadotropins can be used in the treatment of cryptorchidism.-(T)

67.Human chorionic gonadotropin ,HCH (pregnancy urine hormone, PUH) is primarily having L.H like action-(T)

68.Human menoposal gonadotropin is having FSH and LH action in equal.-(T)

69.Human chorionic gonadotropin is produced by human placenta and is maximum on 50^{th} day of pregnancy.—(T)

70.Human menoposal gonadotropin can be used in deficiency of sperm production. –(T)

71.Hyper prolactinemia can produce galactorrhea and hypogonadism..-(T)

72.In a developed lactiferous tissue, lactation can be induced with Growth hormone.-(T)

73.In breast cancer Testosterone is one of the drug of choice.-(T)

74.In dogs urethral calculi of sebaceous type can be treated with Testosterone.-(T)

75.In females LH stimulate the development of corpus leuteum.-(T)

76.In prepartum mares do not have functional corpus leutium hence an oxytocic agent alone can effectively induce foaling.-(T)

77.In prostatic hyperplasia finasteride is preferred over estrogen.—(T)

78.In testosterone toxicity HDL level will be reduced and LDL level will be increased.-(T)

79.Ketoconazole can be recommended in hirsutism.-(T)

80. Ketoconazole primarily an antifungal agent also posses androgen synthesis inhibition action.-(T)

81.Luteinising hormone can be used to treat ovarian cyst in cattle.-(T)

82.Lowering of blood glucose by insulin cause an outpouring of STH.-(T)

83.Large doses of ergot stimulate intestine.-(T)

84.Letting down of milk is blocked by fight.-(T)

85.Luprolide is an analog of Gn RH.-(T)

86.Leuprolide is a Gn RH partial agonist. —(T)

87.Leuprolide can be used to inhibit the hyper activity of gonadotropin, because of its partial agonistic action of GnRH—(T)

88.Leuprolide is recommended in advanced prostatic cancer.-(T)

89.Leuprolide is used to control adrenocortical disease in ferrets.-(T)

90.Leuprolide can be used to stimulate pituitary function.-(T)

91.Luprostiol is a synthetic PG F2 alpha.-(T)

92.Leuprolide acetate inhibits estrogen synthesis in all tissues.-(F)

93.Leuprolide acetate inhibits estrogen synthesis in ovary but not in other tissues.-(T)

94.Lipocortin is a phospholipase A2 inhibitor.-(T)

95.Lutenising hormone is a glycoprotein by ovary.-(F)

96.Lutenising hormone is a glycoprotein by pituitary.-(T)

97.Lyproterone causes atrophy of seminal vesicle and prostate.-(T)

98.Magnesium sulphate is a tocolytic agent.-(T)

99.Melatonin increased the gonadotropin secretion in short day breeding.-(T)

100.Metrodin is human menoposal gonadotropin.-(T)

101.Mefepristone is a compatetive inhibitor on progesterone receptor.-(T)

102.Methyl ergometrine is having less action than ergometrine.-(F)

103.Methyl testosterone is inactivated by liver.-(F)

104.Mifepristone is a progesterone antagonist.-(T)

105.Natural male sex hormone is having androgenic and anabolic effect in the ratio 1:2.-(F)

106.Natural male sex hormone is having androgenic and anabolic effect in the ratio 1:1 .-(T)

107.Nandrolone is having anabolic and androgenic action in the ratio 6:1.-(T)

108.Nitrofurazone blocks the synthesis of testosterone.-(T)

109.Nitrites are having tocolytic action.-(T)

110.Nomegestrol and trimegestone are 19-norprogesterone derivative.-(T)

111.Oxytocin is not helping in the transportation of sperm in female genital tract .-(F)

112.Oxytocin neurophysin is the precursor of oxytocin.-(T)

113.Oestrogen will not prevent the secretion of lactogenic hormone from pituitary.-(F)

114.Oestrogen sensitize the uterus to posterior pituitary extract.-(T)

115.Oxytocin can be used in uterine inertia.-(T)

116.Oxytocin have specific effect on smooth muscles of uterus and myoepithelial cells of mammary glands.-(T)

117.Oxytocin can induce lactation in non pregnant animals.-(T)

118.Oxytocin is a nonapeptide and is structurally similar to vasopressin except two aminoacids.-(T)

119.On CNS Ergometrine is having a hallucinogenic effect.-(T)

120.One of the side effect of PMSG as follicular stimulant is overstimulation and multiple ovulation.-(T)

121.Over production of GH in mature animals after closure of epiphyseal line causes thickening of membraneous and long bones.-(T)

122.Prostaglandin inhibitors like aspirin possess Tocolytic action.-(T)

123.Prostaglandin F2 alpha can delay parturition.-(T)

124.Prostaglandin F 2 alpha can be used to induce abortion during early pregnancy.-(T)

125.Prostaglandin F2 alpha and Bromocriptine are preferred drug in treatment of mismating.—(T)

126.Prolactin is glycoprotein in nature.-(T)

127.PMSG can act on pregnant mares own ovary causing follicle development and multiple ovulation even though the mare is pregnant.-(T).

128.PMSG is filtered across the placenta to foetus. –(T)

129.Priapism in males and virulization in females are characteristic symptoms of testosterone toxicity.-(T)

130.Prolactin can be used as an anabolic agent in hypopituitary dwarfism.-(T)

131.Prolactin modulate immune response by increasing the expression of receptors on T lymphocytes.-(T)

132.Progesterone is synthesized by testis and adrenals.-(T)

133.Placenta in late pregnancy synthesise progesterone.-(T)

134.Presence of corpus leutium in prepartum animals inhibits the action of an oxitocic agent therefor leuteolysis may be needed to induce parturition.--(T)

135.Progesterone will be destroyed orally.-(T)

136.Porcine or bovine FSH results in anti hormone production in humans.-(T)

137.Rebound phenomenon of testosterone is not seen in bulls.-(T)

138.Somatic tropic hormone causes nitrogen retention.-(T)

139.Synthetic Gn RH can be administered as nasal spray.-(T)

140.Spironolactone posses anti androgenic action.-(T)

141.Structurally oxytocin is similar to ADH ,except only of 2aminoacids.-(T)

142.Somatotropic hormone contain sulphur containing protein.-(T)

143.Somatotropic hormone have no anti-insulin effect.-(F)

144.Testosterone is used in cryptorchidism only if it is not responding to HCG.-(T)

145.Testosterone can be used to treat osteoporosis and osteomalasia.-(T)

146.Testosterone is used to androgenize cows in order to produce a “teaser” animal to identify cow in estrous.-(T)

147.Trembolone acetate is a synthetic anabolic steroid.-(T)

148.Tamoxifen is an estrogen antagonist.-(T)

149.The natural source of estrogen is women’s urine and sows ovary.-(T)

150.The leuteolytic action of E and F series of PG is due to constriction of utero overian vessels causing ischemia and starvation of leutial cell.-(T)

151.Testicles produce small amounts of progestin.-(T)

152.Testosterone cypionate is more stable than methyl testosterone. – (F)

153.Testosterone propionate can be used to prevent estrous in Greyhounds .-(T)

154.Testosterone causes thickening and elongation of vocalcords.-(T)

155.Testosterone is having anabolic effect.-(T)

156.Testosterone is available only as testosterone propionate .-(F)

157.Testosterone is capable of removing the changes affected by castration except spermatogenesis.-(T)

158.Testosterone can be used in the treatment of asuspermia.-(F)

159.The anabolic effect of testosterone is more in males than in females.-(F)

160.The retention of nitrogen by testosterone is more in males than in females.-(F)

161.The only active ingredient in ergot is ergot alkaloids.-(F)

162.Tomoxifen is a prodrug , the metabolites of which posses both oestrogenic and anti oestrogenic action.(T)

163.Treatment with progestins in anestrous dog prevent the occurrence of estrous .-(T)

164.Valethamate bromide can be used in the symptomatic treatment of visceral spasm.-(T)

165.Vasopressin stimulate water re absorption in the distal convoluted tubule and collecting duct of kidney.-(T)

166.When diethyl stilbestrol is combined with propionic acid it become long acting.-(T)

III. Fill up the blanks with most appropriate words.

1.Adenohypophyseal hormones are stimulated or suppressed by …….(hypothalamic RHS)

2.Among synthetic oestrogens , ……and ……are the most commonly used ones in veterinary practice.-(Estradiol monobenzoate and Stilbestrol dipropionate)

3.Anti-diuretic hormone is produced by ……pituitary.-(Posterior)

4.Androgens increases the erythropoiesis by promoting the secretion of……-(erythropoietin)

5.After higher dose of testosterone administration withdrawal causes ……phenomenon in males.-(Rebound)

6.Bromocryptine is a dopamine…….(agonist)

7.Calcium channel blockers are having ……action on uterus.-(Tocolytic)

8.Diethyl dihydroxy stilbene is otherwise known as…….-(Diethyl stilbestrol)

9.Ethanol ……the oxytocin release.-(suppress)

10.Equine anterior pituitary preparation is available as …….-(Gonadovet)

11.Ergometrine ……salt is the one which is the most commonly used in small animals.-(maleate)

12.Ergot preparations are meant for ……animals.-(Large)

13.Estradiol is……times more potent than Estriol.-(Eight)

14.Estradiol is ……to estrone and then hydrated to estriol in the liver.-(oxidized,)

15.E and F series of prostaglandins ……..myometrial contractions.-(stimulate)

16.Flutamide is used in the treatment of prostate cancer because of its anti……action.-(androgenic)

17.Five percent of testosterone is produced by ……..glands.-(Adrenal)

18.Finasteride is used in excess of androgens because it competitively block ……..enzyme.-(five alpha reductase)

19.Gonadotropin releasing hormone is a decapeptide produced by the ……..nucleus of Hypothalamus.-(Arcuate).

20.Glucocorticoids increases the number of circulating erythrocyte and neutrophil and decreases the number of circulating……—(lymphocytes and eosinophils)

21.Human chorionic gonadotropin is mainly having ……like action.-(LH)

22.Human placental lactogen is otherwise known as ……..(Chorionic growth hormone prolactin,CGP)

23.HCG (PUH) is primarily having ……..like action.(LH)

24.Human chorionic gonadotropin (HCG) peak level is seen on ……day of pregnancy.-(50^{th})

25.In Friedman pregnancy test if the urine contain HCG ……will happen in rabbits.-(ovulation)

26.In hyper prolactinemia inhibition can be achieved by ……(Bromocryptine)

27.Intravenous administration of ethanol produce ……effect on uterus.-(Tocolytic)

28.In horses for maintenance of late pregnancy corpus leutium is not necessary because of the production of progesterone by ……-(Placenta)

29.In non pregnant caw F2 alpha is released about …….days of oestrus cycle.-(14—15)

30.In ……conformation Clomifen citrate is an agonist of oestrogen.-(cis)

31.In case of lack of libido in stud bulls testosterone is recommended only if treatment with ……is failing.-(Gonadotropin)

32. In ……conformation Clomifen citrate is an antagonist of oestrogen.-(trans)

33.In males FSH causes the development of ……and spermatogenesis.-(Seminiferous tubules)

34.ICSH acts on ovary and cause follicle maturation, ……and……-(ovulation and corpus leutial development)

35.In ……(animal) epiphysal line does not close on maturation.(Rats)

36.In females FSH stimulate the growth of ……-(Graffian follicle)

37.In Ewes first heat in each breeding season will be ……-(silent)

38.In males LH stimulate the interstitial cell to secrete ……..-(Testosterone)

39.Leydig cells produce……..(hormone).-(Testosterone)

40.Male sex hormone have two types of action androgenic and ……..-(anabolic)

41.Melatonin by pineal gland is secreted in response to darkness will advance the onset of breeding season in……species of animals..-(Deer, Goats, Sheeps)

42.Oxitocin mainly acts on smooth muscles of ……..and……cells of mammary glands.-(Uterus , Myoepithelial)

43.Progestin is the secretion from ……-(Corpusleutium)

44.Progesterone can be synthesized from sigmasterols present in ……and ……..-(Soyabean and Calabar bean)

45.Pregnant mare serum gonadotropin is primarily having ……like action.-(FSH)

46.Pregnant mare serum gonadotropin can be recommended in males in deficiency of …….-(Sperms)

47.PMSG is produced by endometrial cups of ……mares.-(Pregnant)

48.PMSG is seen in blood between ……days of pregnancy.-(40-140)

49.Porcine and canine insulin molecules are identical and are similar to ……insulin.—(Human)

50.Pregnant mare serum is having similar action as……--(FSH)

51.Prostaglandin …… is having leuteolytic action.-(F2 Alpha)

52.Presence of HCG in the urine is the basis for ……..pregnancy test.-(Friedman)

53.Pubertal spurt is mainly due to the action of ……hormone.-(Estrogen)

54. STH has not been found is ……(species).--(Avian)

55.Spironolactone is an ……antagonist ,possess anti androgenic action also.-(aldosterone)

56.Soyabean and Calabar beans produce some steroids called……from which progesterone can be synthesized.-(sigmasterols)

57.The most common progestin is ……-(Progesterone)

58.The gonadotropic hormones are …….and ……FSH and LH)

59.The active ingredient of cystorelin or gonadorelin is ……hormone--.(Gonadotropin releasing)

60.Testosterone is secreted by the …….cells of testis .(Leydig)

61.Testosterone is synthesized in laboratory from ……-(cholesterol)

62.The hormonal activity of Vetrophin is like……and……,.-(FSH and LH)

63.The hormonal activity of human chorionic gonadotropin is like …….-(LH)

64.The release of LH from the pituitary depends on the release of LH releasing factor from the ……..(Hypothalamus)

65.The hypothalamal release of LH releasing hormone is regulated by ……..(Gonadal hormones)

66.Testosterone is indicated in ……cancer in males.-(Prostate)

67.The most important use of tocolytic agent is to prevent…….-(premature parturition)

68.Uterine stimulant drugs are otherwise called as ……-(Oxytocic)

69.Uterine relaxant drugs are otherwise called as ……..-(Tocolytics)

70.Valethamate bromide is a quarterinary ammonium compound with anti muscarinic action, it also have ……..action on genital tract.-(Cervix dilator)

71……..(animal) require progesterone to show full response of estrogen.-(Ewes)

72……and ……series of Prostaglandins stimulate myometrial contraction.-(E and F)

73……is a glycoprotein produced by chorionic villai, having more of LH like action.-(HCG)

IV. Choose the correct answer from the given ones:

1.Antiestrogen can be a) a competitive antagonist on estrogen receptors b) inhibitors of estrogen synthesis c) agents exert opposite physiological action d) all the above.-(d)

2.Clomiphen citrate will act as an estrogen agonist in a) cis conformation b) trans conformation c) Both cis and trans d) none of the above.—(a)

3.Danazol express a) anabolic effect b) weak androgenic effect c) anti estrogenic effect d) all the above.—(d)

4.Estrogen is structurally related to a) bile acid b) cardiac glycoside c) vitamin- D d) all the above.-(d)

5.Following species of animals need corpus leutium for the maintenance of pregnancy in full term. a)Cattle b) pig) c) goat d) all the above.-(d)

6.Following are androgen produced by testis other than testosterone. a)dihydrotestosterone b) androstenedione c) dihydroepiandrosterone d)all the above.-(d)

7.Following drugs are GnRH analogue a) nafarelin b) leuprolide c) buscerelin d) all the above.-(d)

8.Gonadotropins stimulates the a) growth of Graffian follicles, b)growth and development of seminiferous tubules. c) Spermatogenesis. d) all the above. -(d)

9.Human chorionic gonadotropins can be recommended in a)deficiency of male sexhormone, b)chryptorchidism due to genital hypoplasia, c) prolonged oestrus in females , d) recurrent abortion, e)all the above.-(e)

10.Human chorionic gonadotropin is available as a) Entromon b) prolan c) Follutin d) all the above.-(d)

11.Human chorionic gonadotropins can be used to treat a) deficiency of male sex hormone b) cryptorchidism due to genital hypoplasia c) prolonged oestrus in females d) all the above.-(d)

12.Immature uterus is : a) maximally sensitive to oxytocin action b) resistant to oxytocin action c) equally sensitive as pregnant uterus d) un predictable to oxytocin action.-(b)

13.In addition to ovary the following tissues also produce estrogen in large quantity a)adrenal cortex b) corpus leutium c) placenta in late pregnancy d) all the above .-(d)

14.In the following species progesterone is not produced by placenta in late pregnancy. a) Catte b) Pig c) Goat d) none of the above e) all the above.-(e)

15.In female interstitial cell stimulating hormone is involved in a) estrogen secretion b) follicle maturation c) ovulation d) all the above.-(d)

16.In males ICSH is involved in a) androgen secretion b) stimulation of interstitial cells c) Both the above d)none of the above .-(c)

17.Liquid extract of ergot is useful in a) expulsion of placenta b) stopping haemorrhage from uterus by involution after parturition c)none of the above d)both A and B.-(d)

18.Oxytocin is strongly active when estrogen is in a) low level b) high level c)normal level d) no influence.—(b)

19.Oxytocin Is mainly involved in a) letting down of milk b) contraction of uterus c) both A and B d) none of the above.-(c)

20.Oxytocin without preceeding PGF2 alpha treatment can consistently induce parturition in a) mares b) sows c) cows d) bitches.—(a)

21.Oxytocin is strongly active a) during estrous b) proestrous c) late pregnancy d) all the above.-(d)

22.Oxytocin can be used to a) speed up the expulsion of foetus b) expulsion of placenta c) treat agalactia in cow d) expel all infected milk from udder all the above.-(d)

23.Oxytocin is : a) a steroid b) a nonapeptide c) effective orally d) atropine block theaction.-(b)

24. Oxytocin is not given by : a) intra nasal spray b) intra venous drip c) oral route d) intramuscular route .-(c)

25.Oxytocin from pituitary is released in to the circulation at the time of : a) parturition and suckling b) first trimester of pregnancy c) menopause d) mental disturbances.-(a)

26.Oxytocin causes : a) increase in frequency of uterine contraction b) increase in force of uterine contraction c) increase in duration of uterine contraction d) all theabove.-(d)

27.Progesterone can be used to treat the following a) habitual abortion b) cystic ovary c) synchronization of oestrum d) all the above.-(d)

28.Production of growth hormone before closure of epiphyseal line result in a) gigantism b) acromegaly c) hypogonadism d) all the above.-(a)

29.Pregnant mare serum gonadotropins can be recommended in a) inactive ovary that are dormant for various reasons b) suboestrum c) defficiency of sperms d) super ovulation for embryo transfer e) all the above.-(e)

30.Progesterone is synthesized by the following tissues a) corpus leutium b) testis c) adrenals d) all the above.-(d)

31.involving negative nitrogen balance c) pan hypopituitarism d) all the above._(d)

32.Synthetic estrogen belongs to the following group a) steroidal b) non steroidal c) Both the above d) non of the above.-(c)

33.The drug of choice for induction of therapeutic abortion is : a) oxytocin b) prostaglandin c) ADH d) all the above.-(a)

34.Under production of GH in mature animals results in a) dwarfism b) hypothyroidism c)hypogonadism d)all the above.-(d)

V.Choose the correct answer from the given one and give your explanation.

1.Frequent administration of which one of the following sex steroids in animals would most likely inhibit growth of the adrenal cortex and adrenocorticotropic hormone(ACTH) secretion? A) boldenone B) estradiol C) megestrol D) stanozolol.
The answeris C. progestin such as megestrol have glucocorticoid-like activities that can inhibit adrenocorticotropic hormone secretion, inducing iatrogenic hypoadrenocorticism. Estrogens and androgens do not have significant glucocorticoids activity.

2)Oxytocin without a preceding prostaglandin F2 alpha treatment can consistently induce parturition in A) mares B) sows C) cows D) bitches.
The answer is A: The presence of corpus lutium inhibit the action of an oxytocic agent. Because prepartum mares do not have a functional CL, oxytocin can effectively induce foaling. All prepartum sows, cows,and bitches have corporaleutea, therefore luteolysis must occur (or be induced with PG F2 alpha) before an oxytocic agent can work effectively.

3) Which one of the following drug is a preferred drug for the treatment of postpartum haemorrhage and uterine involution. A) Oxyticin B) Bromocriptine C) Cloprostenol D) Dexamethasone E) Ergonovine.
The answer is E: Ergonovine causes prolonged contraction of myometrium and uterine blood vessels. Therefore, it is a preferred drug for the treatment of postpartum hemorrhage and uterine involution. Oxytocin is a peptide hormone that evokes short term uterine contractions. Bromocryptine at therapeutic doses has an insignificant effect on smooth muscle contraction. Cloprostenol is a prostaglandin F2 alpha analog that is used to induce parturition and abortion, to treat pyometra, and to expel mummified fetus. Dexamethasone is used to induce parturition.

4) Frequent administration of which one of the following sex steroids in animals would most likely to inhibit growth of the adrenal cortex and adrenocorticotropic hormone (ACTH) secretion? A) Boldenone B) Estradiol C) Megestrol D) Stanozolol.
The answer is C: Progestin such as megestrol have glucocorticoid –like activities that can inhibit adrenocorticotropic hormone (ACTH) secretion, inducing iatrogenic hypoadreno cortism. Estrogens (eg.estradiol) and androgens (eg, stanozolol, boldenone) do not have significant glucocorticoid activities.

5. Which one of the following steroids is used to treat anemia? A) Deoxycorticosterone B) Estradiol C) Medoxyprogesterone D) Boldenone.

The answer is D: Androgen increase erythropoiesis by promoting erythropoietin synthesis. Therefore androgen such as boldenone can be used to treat anemia. Deoxycorticosterone , estradiol, and medoxyprogesterone are not androgens, and do not promote erythropoisis.

6. Administration of megestrol acetate in queens as an oral contraceptive may cause A) masculinization B) diabetes mellitus C) aplastic anemia D) hepatopathy.
The answer is B: Megestrol, a progestin, may cause diabetes mellitus, particularly in a diabetes –prone animal. This is due to progestins glucocorticoid activity. Megestrol is not an androgen so it does not cause masculinization or hepatopathy. It is not an estrogen so it does not cause aplastic anemia.

7.All the following progestins are effective when administered orally to an animal except A)Progesterone B) megestrol C) melengestrol D) altrenogest.
The answer is A: Progesterone is a natural steroid that is rapidly inactivated by liver enzymes following absorption from the GI tract. Synthetic progestins (eg. Megestrol, melengestrol, altrenogest) are more resistant to liver enzymes.

VI.Answer the following

1.It abolish uterine tone ,reduce contraction to maintain pregnancy, convert clear cervical secretion in to a tough rubbery cervical plug , growth of mammary alveolar tissue. What?.-(Progesterone)

2.This hormone is responsible for maintenance of pregnancy, Which hormone? ._(Progesterone)

3.Give the drug of choice in delayed puberty and cryptorchidism.—(Gn RH analogs, Leuprolide)

4.crude preparation of ergot is not advisable before parturition. Why?.-Uterus will clamp down on foetus.

5.How PG F2 alpha will act as a leuteolytic agent? It causes the constriction of utero-ovarian vessels causing ischemia and starvation of leutial cells causing lysis.

6.How Ergonovine causes contraction of blood vessels? Ergonovin stimulate alpha adrenergic receptors of blood vessels and so causes constriction.

7.How can we induce super ovulation in cow? Super ovulation can be induced in cow by giving FSH given over 4 days in between 9—14 th day of estrous cycle , prostaglandin F2 alpha is given on day 3rd will induce super ovulation. On an average 6 usable embryos will be there.

8.How oestrous is synchronized? Estrous can be synchronized by giving PGF2 alpha to the herd twice 10-12 days apart will express estrous in 3-5 days after the second injection.

9.This is the basis for Friedman pregnancy test . What?. Suspected pregnant womens urine cause ovulation in rabbit because of the presence of HCH having L.H like action.

10.This explain silent heat during the first Estrous cycle in each breeding season in Ewes.What.?.- Estrogen require the presence of progesterone from corpus leutium of previous heat to show full response of estrogen in the heat.

11.What areTocolytics. These are agents which inhibits uterine motility.

12. What are Ecbolics- These are agents which enhances uterine motility.

13.This can produce oestrus in overactamized animals, What? Oestrogen.

14.What is the mechanism of action of Gonadotropins. The gonadotropin receptors are coupled to Gs , which activates adenyl cyclase to increase cyclic AMP formation –in turn activate protein kinase A, which phosphorylates the cellular constituents for the action.

VII.Write short notes on

1.Gonadotropin releasing hormone: It is a decca peptide produced by the arcuate nucleus of hypothalamus. Commercial source is synthetic ,causes release of FSH and LH by the anterior pituitary,Contineous administration blocks gonadotropin release , use in cystic ovary- 100microgram at an interval of 2-4 weeks.(does not elicit anti hormone in cow) can be used to stimulate pituitary function. Eg. Cystorelin, Gonadorelin.

2.Non pituitary gonadotropin of veterinary importance: Hormones having FSH and LH like action, released by tissues other than pituitary .Eg.PMSG (Pregnant mare serum gonadotropin) and HCG /PUH Human chorionic gonadotropins/Pregnancy urine hormone) Explain each-

3.Pregnant Mare's Serum Gonadotropins (PMSG)/equine chorionic gonadotropin. Produced by the Serum of pregnant mare from 40-140 days, primary action like FSH and some action like LH. Act on pregnant mare, own ovary cause multiple ovulation, induce follicular growth in inactive ovaries of mature animals- stimulate inactive ovary that are dormant – used in subestrum-defficiency of sperms in mares-superovulation for embryo transfer. Eg. Folligon. Anaphylaxis may be seen in some cases.

4. Pregnancy urine hormone/Human chorionic Gonadotropins,(PUH/ HCG): A glycoprotein by chorionic villi, maximum on 50^{th} day of pregnancy ,more of L.H like action, positive urine cause ovulation in rabbits.(this is the basis for Friedman pregnancy test). Widely used in Vet. Practice because of low cost. Continued use cause anti hormone production and anaphylactic reaction. Used in deficiency of male sex hormone in males, cryptorchidism due to genital hypoplasia, to stimulate testosterone production. In females prolonged oestrus (no ovulation on mature follicle) . Ovulation of mare at the time of breeding , ovulation of cystic ovary associated with nymphomania, recurrent abortion .Eg. Follutin, Prolan.

5.Prolactin or lactogenic hormone .It is leuteotropic hormone –Glycoprotein in nature, Corpus leutium stimulating action- engorgement of udder and milk secretion, used as an anabolic agent in hypopituitary dwarfism. It is a modulator of immune response- stimulate expression of receptors on T Lymphocytes.

Hyperprolactinemia cause galactorrhea and hypogonadism. Inhibition by Bromocryptin or cabergolin – both are dopamine agonist.

6.Oxytocin- (Antidiuretic hormone); Produced by the posterior pituitary-specific action on smooth muscles of uterus and myoepithelial cells of mammary glands-strong action when estrogen levels are high such as during estrous, proestrous and late pregnancy. Precursor is oxytocin neurophysin. Secretion is stimulated by sensory stimuli from genital tract. Release is suppressed by ethanol, catecholamines. Uses: to speedup expulsion of foetus, expulsion of placenta, involution of uterus, agalactia in cow. Eg.- pitocin, pituitrin, cyntocinon.

7.Gonadal hormones: Estrogen and testosterone-explain…

8.Estrogen: steroid hormone by ovary-capable of inducing oestrus in overactamized animals-natural oestrogens are estradiol, estriol, estrone. Estradiol is the most potent. Adrenal cortex, corpus leutium placenta in late pregnancy also produce estrogen in small amount. Equine male urine and testis contain estrogen. Plant oestrogens are called phytoestrogen. Natural source is womans urine, and sows ovary-synthetic estrogen –steroidal eg. Ethinyl estradiol, nonsteroidal eg. Diethyl stilbestrol. Actions- changes taking place in female at puberty, sexual behavior in females, normal contractility of uterus, stimulate normal physiological process of female reproductive tract- sensitize uterus to posterior pituitary extract.

9.Testosterone: Male sex hormone produced mainly by Laydig cells (95%), from adrenals 5 %. Causes the development of secondary sexual characters, anabolic effect in males, capable of removing the changes affected by castration (except spermatogenesis)-well absorbed orally-destroyed by liver, used in infertility and hypogonadism, alopecia, bilateral alopecia in castrated animals, cryptorchidism ,urethral calculi, balanitis in castrated ones, deficient sex drive, treatment of osteoporosis, cancer of brest, oestrus suppression, pseudopregnancy in bitches. Toxicity- priapism, virulization, oligospermia, GI.upset, hypocalcemia. Eg.Testosterone propionate, Test.cypionate.

10.Gonadotropic hormones-FSH and LH Explain…….

11.Follicle stimulating hormone (FSH) :glycoprotein in nature-stimulate the growth of graffian follicle in females , stimulate the development of seminiferous tubule and spermatogenesis in males-clinical use of FSH is limited because of more cheaper source FSH like PMS. Pituitary FSH is FSH-P, used to stimulate folliculogenesis and superovulation in cow.

12.Interstetial cell stimulating hormone/ Leutinising hormone (ICSH/LH)–Glycoprotein in nature-chemically differ in various species, Stimulate follicle towards maturation and ovulation, estrogen production, stimulate the development of Corpus leutium. In males enable interstitial cells (Leydig cells) to secrete testosterone. Uses- in failure of ovulation by mares, treatment certain form of nymphomania associated with large follicle in cattle , ovarian cyst in cattle, preparations-gonadovet, Vetrophin, HCG.

13.Diethyl stilbestrol: Synthetic estrogen-absorbed through the skin and mucous membrane, not inactivated by liver-most commonly used compound in in Vet. Practice is Stilbestrol di propionate .Use

to initiate lactation in heifers-retained placenta, mummified foetus, anestrum/subestrum in cattle, to stimulate weight in cattle, induction of abortion, metritis, pyometra. In dogs used to treat misalliance in bitches, incontinence of urine, anal adenoma, pseudo pregnancy, to control lactation in bitches. Repeat dose may cause prolapsed of vagina, uterus, abortion ovarian cyst, femininization in males, calcium depletion.

14.Antiestrogens: They modify the action of estrogen. There are three classes –a) competitive antagonist of estrogen receptors, b) inhibitors of estrogen synthesis, c) agents exerts opposite physiological response. Clomifen citrate is a competetive estrogen antagonist, in cis-conformation these are agonist, In trans- conformation these are antagonist. Metabolites blocks the activation of receptors by endogenous estrogen and disrupt normal feedback inhibition of Gn RH and gonadotropins results in enhanced secretion-ovarian stimulation and ovulation- Tamoxifen and Nafoxidine are related compound. Estrogen synthesis inhibitors (Gn RH analogs)-leuprolide acetate-will not inhibit the synthesis in adipose tissue and other peripheral tissues. Aminoglutethamide ,an aromatase inhibitor blocks convertion of androgen to estrogen in all tissues. Physiological antagonists –progestin and androgen.

15.Progesterone: produced from corpusleutium, synthesis by ovary, testis, adrenals and placenta in late pregnancy-soya beans and calabar bean also produce steroids(Stigma sterols) from which we can synthesise progesterone. Responsible for the maintenance of pregnancy in horse, sheep, dogs and cat. Corpus leutium is not necessary in late pregnancy since placenta produce it. Abolish uterine tone, reduce contraction and maintain pregnancy , Render uterus less sensitive to oxitocin and also inhibit follicle stimulation , development of secretory endometrium, stimulate the growth of mammary alveolar tissue. Uses-Habitual abortion, nymphomania, suppression of estrous in bitches, synchronization of estrum to induce udder development, to delay parturition in rabbits .Eg. ethisterone, proluton.

16.Anti androgen: Two types-a) which blocks 5 alpha reductase which convert testosterone to dihydrotestosterone b) which compets for the binding of testosterone and dihydro testosterone to receptors. Ketoconazole- primarily antifungal, prevent androgen synthesis in adrenal . These are used in hirsutism, prostste cancer.Eg. finazteride, nitrofurans, cadmium. b) receptor antagonist-cyproterone and flutamide. Cyproterone causes atrophy of seminal vesicle, prostates and other androgen receptors. .Spironolactone and cimetidine are also having anti androgenic action. Flutamide is used in prostate carcinoma.

17.Anabolic steroids: Testosterone is having androgenic and anabolic effect, however synthetic anabolic agents are used for anabolic purpose. It stimulate constructive metabolism-stimulate the amino acid uptake by the muscles-use in aging animals suffering from weight loss, tissue depletion, parasitism, non specific stimulation of erythropoisis, ketosis in cow to enhance physicsl ability, osteoporosis etc. natural compounds are having androgenic and anabolic action in 1:1 ratio synthetic compounds vary Nandrolone is having 1:6 ie. six times more anabolic action than androgenic . continuous use cause retension of sodium and potassium, high blood pressure, nephritis, impaire udder development, musculinising effect. Contra indicated in potent breeding stock, androgen depended tumour.

18. **Uses of testosterone:** Infertility, hypogonadism, asuspermia, (high dose block spermatogenesis-withdrawal causes regeneration , Rebound phenomenon seen in human beings not in bulls) alopecia of hormonal origin in males, bilateral alopecia in castrated ones, cryptorchidism if it is not responding to HCG, urethral calculi of sebaceous type in castrated ones, to arrest lactation, balanitis in castrated ones, defficiency of sex drive (libido) in bulls, femininisation at puberty in dogs, debility associated with aging, osteoporosis, cancer of breast, oestrus suppression in bitches, pseudo pregnancy in bitches.

19.Toxicity of testosterone: oligospermia,reduce ejaculatory volume, priapism, high libido, gastro intestinal upset, hypocalcemia, virulization in females, oedema, increase in LDL and HDL cholesterol-Explain……

20.Uses of synthetic oestrogen: In cow anestrum or subestrum, retained placenta, mummified foetus, induction of abortion up to 7 month, metritis and pyometra. Large amount of diethyl stilbestrol initiate lactation in heifers. In beef cattle –pellets implanted three months before slaughter stimulate weight by 25%. In bitches treatment of misalliance, incontinence of urine in ovariectomized dog, anal oedema (hypertrophy of prostate glands due to increase in action of male sex hormone) pseudo pregnancy in bitches due to persistant pyometra, to reduce lactation in bitches when pups are weaned,. In chemical caponisation of birds it can be used.

21.Mechanism of action of Clomifen citrate: It is a non steroidal compound, structurally related to diethyl stilbestrol. In cis-conformation these are agonist and in trans- conformation these are antagonist-metabolites have high affinity to estrogen receptors- and blocks the activation of receptors by endogenous estrogen- disrupt normal feed back inhibition of Gn RH and gonadotropins-results in their enhanced secretion and ovarian stimulation and ovulation, some time causes large cystic ovary. Tamoxifen and Nafoxidine are related compound with same action.

22.Drugs affecting uterine motility: Ecbolics and Tocolytics-Explain each one …….

23.Ecbolics- stimulate power and extent of rhythmic contraction of uterus. Ergot alkaloids: Ergometrine(Ergonovine) Most potent aminoacid alkaloid. More action on partureant and immediate post parturient uterus. Ergometrine maleate is used – orally active. Powder or liquid extract of ergot – useful in expulsion of placenta,stopping haemorrhage from uterus after parturition . oxitocin also stimulate uterus

24.Tocolytics: Drugs that inhibits uterine motility- used to delay or prevent parturition in selected individual to slow or arrest delivery for a brief period. B2 agonist –Salbutamol, Terbutaline, Ritodrin-preffered for premature labour-When B2 agonist are contraindicated Magnesium sulphate can be used . Ethanol –i/v injection (10% solution 7.5 ml/kg/hr for 2 hours) . . Calcium channel blockers-nifedipine- delay parturition for 4-27days- Prostaglandin inhibitors like Aspirin, Ibuprofen also active. Miscellaneous agents-Nitrites.

25.Phytoestrogen: They are diverse group of naturally occurring non steroidal plant compound called as xenooestrogens/ dietary estrogens. Because of their structural similarity with estrogen they have the ability to cause estrogenic or antiestrogenic effect. Mainly two groups. 1) Isoflavones eg.genistein

and biochanin – A. 2) Coumestans eg. Repensol and coumestrol. These are produced as a part of their natural defence against the over population of herbivore animals by controlling female fertility. Some pastures of subterranean clover and red clover showed adverse effect in sheep. Evidence is accuring that phyto estrogens may have protective action against diverse health disorders such as prostate, breast, bowel and other cancers, cardio vascular diseases , brain function disorders and osteoporosis. Flax seeds and soybeans contain phytoestrogens.

VIII.Write essays on :

1. Role of eicosanoids on reproduction.

2.Non pituitary gonadotropins.

3.What are the gonadal hormones: explain the synthesis ,action and uses of male gonadal hormones?

4.Give an account of synthesis, action and uses of Estrogen.

5.Classify anti oestrogenic drugs: explain one each from all the classes.