



20 JAN 2008

Physiology

3ZXN



સમય : 50 મિનિટ Time : 50 Minutes  
કુલ પ્રશ્નો : 100 Total Que. : 100  
કુલ ગુણ : 100 Total Marks : 100

ઉમેદવારોનો સીટ નંબર

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ઉમેદવારોને સૂચના

- (01) આ પ્રશ્નપુસ્તિકામાં કુલ 100 પ્રશ્નો છે. દરેકના સરખા ગુણ છે. બધા પ્રશ્નોના જવાબ આપો. તમારા કુલ ગુણનો આધાર તમે જેટલા સાચા ઉત્તરો આપ્યા હશે તેની સંખ્યા ઉપર રહેશે.
- (02) 1થી 100 પ્રશ્નો પૂરેપૂરા છપાયેલા છે કે કેમ? તેની પ્રથમ ખાતરી કરી લો. જો પ્રશ્નો પૂરા છપાયા ન હોય અથવા કોઈ પૃષ્ઠ ફાટેલું હોય કે કોઈ પૃષ્ઠ સામેલ ન હોય (Missing) તો તુરત જ પ્રશ્નપુસ્તિકા નિરીક્ષક પાસેથી અચુક બદલાવી લેવી.
- (03) આ પાના ઉપર આપનો બેઠક નંબર લખો.
- (04) આપ કોઈના ઉત્તરની નકલ કરશો નહિ, તેમજ આપના ઉત્તરની નકલ કરવા દેશો નહિ.
- (05) પરીક્ષાર્થીઓને પરીક્ષાખંડ/હોલમાં, પ્રવેશપત્ર સિવાય કોઈ પણ પ્રકારના હસ્તલિખિત, છાપેલ પુસ્તક કે કાગળની ચિટ્ટી, પેપર, મોબાઈલ-સેલ ફોન કે કોઈ પણ પ્રકારના ઇલેક્ટ્રોનિક સાધનો લઈ જવાની કે ઉપયોગ કરવાની અનુમતિ નથી.
- (06) પ્રશ્નોના જવાબો અલગ જવાબવહીમાં આપવાના રહેશે. જેને માટે નિરીક્ષક દ્વારા આપને કોમ્પ્યુટરાઈઝડ ખાસ પ્રકારની જવાબવહી આપવામાં આવશે. ઉમેદવારને જવાબવહી મળ્યા બાદ જો તેઓ દ્વારા તેનો નાશ કરવામાં આવશે કે ગુમ કરવામાં આવશે તો ઉમેદવાર ફોજદારી ગુનાને પાત્ર બનશે. સૌ પ્રથમ આપે જવાબવહી ઉપર દર્શાવેલ નિયત ખાનામાં (English) અંગ્રેજીમાં પરીક્ષાનું નામ, પરીક્ષાની તારીખ, કેન્દ્ર, જન્મતારીખ, પરીક્ષાર્થીનું નામ (અટક પહેલાં લખવી), રોલ નંબર (બેઠક નંબર) તથા વિષય ફક્ત ભૂરી (Blue) અથવા કાળી (Black) શાહીની બોલપેનથી (English) અંગ્રેજીમાં લખીને નિયત ખાનામાં પોતાની સહી કરવાની રહેશે. આ વિગતોની ચકાસણી બાદ નિરીક્ષક તેમની સહી કરશે. જો વિગતો ભરવામાં નહિ આવે તો આપની જવાબવહીનું મૂલ્યાંકન કરવામાં આવશે નહિ અને શૂન્ય ગુણ આપવામાં આવશે. જવાબવહીના પાછળના ભાગમાં રોલ નંબર (બેઠક નંબર), પ્રશ્નપુસ્તિકા સીરીઝ અને પ્રશ્નપુસ્તિકા નંબરના ખાનામાં લાગુ પડતી સાચી વિગતો ફક્ત ભૂરી અથવા કાળી શાહીની બોલપેનથી જ વર્તુળ પૂરેપૂરું ડાર્ક કરીને (encode) કરીને આપવી.
- (07) આ પ્રશ્નપત્રના બધા પ્રશ્નો હેતુલક્ષી છે. દરેક પ્રશ્નના ઉત્તરમાં A, B, C, D વિકલ્પો આપેલા છે. તેમાંથી સાચો વિકલ્પ શોધી જવાબવહીમાં સંબંધિત પ્રશ્નના ક્રમ નીચે આપેલ A, B, C કે Dના વર્તુળને પૂરેપૂરું ભૂરી/કાળી શાહીની બોલપેનથી ડાર્ક કરવું. આ સિવાયની કોઈ પણ કલરની શાહીની બોલપેનથી જવાબો આપ્યા હશે તે જવાબવહી તપાસવામાં આવશે નહિ અને આપોઆપ “શૂન્ય” ગુણ આપવામાં આવશે. એકવાર ડાર્ક કરેલ જવાબને બદલી શકાશે નહિ.
- ઉદાહરણ તરીકે :  
ભારતનું કયું રાજ્ય સૌથી લાંબો દરિયા કિનારો ધરાવે છે ?
- (A) (B) (C) (D)
- (A) મહારાષ્ટ્ર (B) તામીલનાડુ  
(C) ગુજરાત (D) આંધ્રપ્રદેશ
- આ ઉદાહરણમાં સાચો જવાબ (C) છે. આથી (C)નું વર્તુળ ડાર્ક (encode) કરેલ છે. ઉમેદવારોએ જવાબમાં “ગુજરાત” લખવું નહિ.
- (08) એક જ પ્રશ્ન માટે જો જવાબવહીમાં એકથી વધુ વિકલ્પ આપે આપેલા હશે તો તે જવાબ માટે ગુણ આપવામાં આવશે નહિ.
- (09) આ જવાબવહી કોમ્પ્યુટર દ્વારા તપાસવાની હોવાથી તે વળે, ફાટે કે બગડે નહિ તેની ખાસ કાળજી રાખવી. પ્રશ્નપુસ્તિકામાં કોરી જગ્યામાં રક્કમ કરવું. તે માટે અલગ કાગળ આપવામાં આવશે નહિ. જવાબવહીમાં કંઈ પણ રફવર્ક કરવું નહિ. પ્રશ્નપુસ્તિકામાં જવાબો લખવાની મનાઈ છે.
- (10) પ્રશ્નપુસ્તિકાના કોઈ પૃષ્ઠ ફાડવાં કે જુદાં કરવાની મનાઈ છે.
- (11) પરીક્ષાખંડ છોડતા પૂર્વે જવાબવહી (OMR Answer Sheet) નિરીક્ષકને સોંપવી, જ્યારે પ્રશ્નપુસ્તિકા ઉમેદવારો લઈ જઈ શકશે.
- (12) આ સૂચનાઓના અનાદર માટે ઉમેદવાર સામે શિક્ષાત્મક કાર્યવાહી કરવામાં આવશે.



## PHYSIOLOGY

- 1 Deficiency of iron results in
  - (A) Aplastic anemia
  - (B) Megaloblastic anemia
  - (C) Microcytic anemia
  - (D) Normocytic anemia
  
- 2 From the following blood cells which one is the smallest in size
  - (A) Red blood cell
  - (B) Neutrophil
  - (C) Monocyte
  - (D) Small lymphocyte
  
- 3 Leucocytosis occurs due to
  - (A) Repeated exposure to radiations
  - (B) Aplasia of bone marrow
  - (C) Acute bacterial infections
  - (D) Cytotoxic drug administration
  
- 4 Clotting factor
  - (A) II is Fibrinogen
  - (B) IV is Calcium
  - (C) VII is Fibrin stabilising factor
  - (D) X is Antihemophilic globulin
  
- 5 If blood groups of mother as well as child are 'AB', Father can NOT have
  - (A) 'O' group
  - (B) 'A' group
  - (C) 'B' group
  - (D) 'AB' group
  
- 6 In mismatched blood transfusion
  - (A) Recipients cells are agglutinated and haemolysed
  - (B) Donor's cells are agglutinated and haemolysed
  - (C) There is obstructive jaundice
  - (D) All of the above
  
- 7 Reticulocytes are normally
  - (A) Present in bone marrow but absent in peripheral blood
  - (B) Absent in bone marrow but present in peripheral blood
  - (C) Present in reticulo endothelial cells but absent in peripheral blood
  - (D) Present in bone marrow as well as in peripheral blood

- 8 Absolute Eosinophil count is
- (A) Number of eosinophils per 100 W.B.C.
  - (B) Number of eosinophils per ml of blood
  - (C) Number of eosinophils per cubic mm of blood
  - (D) 4 to 6 %
- 9 Bleeding time is prolonged in
- (A) Hypercalcemia
  - (B) Hemophilia
  - (C) Thrombocytosis
  - (D) Purpura
- 10 A reliable screening test for platelet function is
- (A) Prothrombin time
  - (B) Clotting time
  - (C) Clot retraction time
  - (D) None of the above
- 11 Normal haematocrit value is
- (A) 45%
  - (B) 55%
  - (C) 50%
  - (D) 60%
- 12 Saliva contains
- (A) Pepsin
  - (B) Ptyalin
  - (C) Trypsin
  - (D) Gastrin
- 13 Oedema can occur due to
- (A) Increase in blood capillary hydrostatic pressure
  - (B) Decrease in plasma proteins
  - (C) Increased blood capillary permeability
  - (D) All of the above
- 14 Achalasia is a disorder related to
- (A) Speech
  - (B) Cerebellum
  - (C) Hydrochloric acid secretion in stomach
  - (D) Cardiac sphincter of oesophagus
- 15 An important sign of cerebellar lesion is
- (A) Ataxia
  - (B) Aphasia
  - (C) Dysphagia
  - (D) Achlorhydria



- 16 Composition of glomerular filtrate is same as  
(A) Plasma (B) Plasma except plasma proteins  
(C) Intra cellular fluid (D) None of the above
- 17 Cholecystikin causes  
(A) Contraction of gall bladder  
(B) Increased secretion of bile by hepatocytes  
(C) Increased secretion of pancreatic juice rich in bicarbonate  
(D) All of the above
- 18 Pancreatic juice contains  
(A) Ptyalin (B) Pepsin  
(C) Lipase (D) Enterokinase
- 19 Cephalic phase of gastric secretion is due to  
(A) Presence of food in mouth  
(B) Inhibition of vagus nerve  
(C) Gastric distension  
(D) Entero gastric reflex
- 20 Which of the following clearance tests measures renal plasma flow  
(A) Inulin clearance test  
(B) Para amino hippuric acid (PAH) clearance test  
(C) Urea clearance test  
(D) Creatinine clearance test
- 21 Normal rate of glomerular filtration is  
(A) 125 ml /min (B) 125 ml/hr  
(C) 1.5 l/hr (D) 1.5 l/day
- 22 Bile salts  
(A) Are synthesised by hepatocytes  
(B) Lower surface tension  
(C) Are normally absent in urine  
(D) All of the above

- 23 Pyloric glands of stomach secrete
- (A) Acid
  - (B) Acid and Pepsin
  - (C) Thin alkaline watery mucin
  - (D) Thick alkaline viscid mucus
- 24 Segmentation movement of small intestine
- (A) Is a wave of contraction followed by a wave of relaxation
  - (B) Is a wave of relaxation followed by a wave of contraction
  - (C) Mainly causes mixing of food
  - (D) Mainly causes propulsion of food
- 25 Following hormone is released when duodenal contents become acidic
- (A) Secretin
  - (B) Gastrin
  - (C) Cholecystokinin
  - (D) Somatostatin
- 26 Intra pleural pressure during inspiration becomes
- (A) More positive
  - (B) More negative
  - (C) Equal to atmospheric pressure
  - (D) Equal to pressure in alveoli
- 27 Volume of air in lungs at the end of normal expiration is termed as
- (A) Vital capacity
  - (B) Functional residual capacity
  - (C) Residual volume
  - (D) Expiratory reserve volume
- 28 Spirometer is useful in measuring all the following EXCEPT
- (A) Tidal volume
  - (B) Vital capacity
  - (C) Expiratory reserve volume
  - (D) Total lung capacity
- 29 Haemoglobin combined with carbon dioxide is termed as
- (A) Carboxy haemoglobin
  - (B) Carbamino haemoglobin
  - (C) Reduced haemoglobin
  - (D) Methaemoglobin



- 30 Stagnant type of hypoxia is seen
- (A) In congestive cardiac failure
  - (B) In congenital heart disease
  - (C) In chronic lung disease
  - (D) At high altitude
- 31 Central chemoreceptors, are mainly stimulated by
- (A) Decreased blood  $pO_2$
  - (B) Increased blood  $pCO_2$
  - (C) Increased blood  $H^+$  ion concentration
  - (D) All of the above
- 32 Vagal stimulation causes all EXCEPT
- (A) Decrease in heart rate
  - (B) Decrease in blood pressure
  - (C) Broncho dilation
  - (D) Increase in gastric acid secretion
- 33 When tidal volume is 500 ml, dead space is 150 ml and rate of respiration is 12 / min; the alveolar ventilation is
- (A) 1500 ml
  - (B) 2400 ml
  - (C) 4200 ml
  - (D) 5100 ml
- 34 Counter current exchanger system operates at
- (A) Glomerular capillaries
  - (B) Vasa recta
  - (C) Loop of Henle
  - (D) Collecting ducts
- 35 Water reabsorption in proximal convoluted tubules
- (A) Is under control of anti diuretic hormone
  - (B) Varies so as to regulate water balance
  - (C) Is about 60% of glomerular filtrate
  - (D) All of the above
- 36 Hypothalamohypophyseal portal system
- (A) Controls hormones of posterior pituitary
  - (B) Controls hormones of anterior pituitary
  - (C) Carries ADH and oxytocin to posterior pituitary
  - (D) None of the above

- 37 Acromegaly
- (A) Occurs in adults
  - (B) Causes enlargement of membranous bones
  - (C) Increases blood glucose level
  - (D) All of the above
- 38 About oxytocin following is true, EXCEPT
- (A) Is released during labor when there is stretch on cervix
  - (B) Causes milk secretion from lactating mammary gland
  - (C) Causes contraction of myoepithelial cells of lactating mammary gland
  - (D) Is regulated by positive feed back mechanism during labor
- 39 Thyroid hormone
- (A) Reduces appetite
  - (B) Increases fat deposition in adipose tissue
  - (C) Decreases rate of glycolysis
  - (D) Promotes growth of brain during early fetal life
- 40 Goitre means
- (A) Enlarged thyroid gland
  - (B) Hyperthyroidism
  - (C) Deficiency of thyroid stimulating hormone
  - (D) All of the above
- 41 Sympathetic stimulation causes
- (A) Constriction of pupil
  - (B) Contraction of detrusor muscle
  - (C) Constriction of arterioles and veins
  - (D) All of the above
- 42 Following are the actions of glucocorticoids, EXCEPT
- (A) Increase gluconeogenesis
  - (B) Promote utilization of fatty acids for energy purpose
  - (C) Increase blood glucose level
  - (D) Prevent ketosis
- 43 Decreased secretion of aldosterone results in
- (A) Cushing's syndrome
  - (B) Addison's disease
  - (C) Adrenogenital syndrome
  - (D) Myxedema



- 44 Polydipsia is
- (A) Excessive urine formation
  - (B) Excessive eating of food
  - (C) Excessive drinking of water
  - (D) All of the above
- 45 Somatostatin
- (A) Is an enzyme secreted by stomach
  - (B) Stimulates secretion of insulin and glucagon
  - (C) Is secreted by delta cells of islets of Langerhans
  - (D) Increases blood glucose level
- 46 Vitamin D
- (A) Is converted to 25-hydroxycholecalciferol in kidneys
  - (B) Is converted to 1,25-dihydroxycholecalciferol in liver
  - (C) Acts as a hormone when 1,25-dihydroxycholecalciferol is formed
  - (D) All of the above
- 47 Parathyroid hormone
- (A) Is a steroid
  - (B) Increases calcium excretion in urine
  - (C) Increases calcium deposition in bones
  - (D) Increases calcium absorption from intestine
- 48 Deficiency of vitamin d results in
- (A) Rickets
  - (B) Osteoporosis
  - (C) Tetany
  - (D) Osteoarthritis
- 49 Osmoreceptors are situated in
- (A) Anterior pituitary
  - (B) Posterior pituitary
  - (C) Anterior hypothalamus
  - (D) Posterior wall of atria
- 50 Hypercalcemia is caused by
- (A) Tetosterone
  - (B) Parathyroid hormone
  - (C) Cholecalciferol
  - (D) Calcitonin



- 51 Decreased hypothalamic function causes decreased levels of all, EXCEPT  
(A) Growth hormone (B) Prolactin  
(C) ACTH (D) TSH
- 52 Most potent mineralocorticoid secreted is  
(A) Cortisol (B) 11-deoxycorticosterone  
(C) Aldosterone (D) Androgens
- 53 In diabetes mellitus  
(A) Urine volume is 1 litre in a day  
(B) Ketone bodies in blood are increased  
(C) Specific gravity of urine is 1010  
(D) None of the above
- 54 Thyroid gland releases all, EXCEPT  
(A) Thyrocalcitonin (B) T4  
(C) T3 (D) TSH
- 55 Thirst is initiated by injecting hypertonic saline in which area of hypothalamus  
(A) Supraoptic nucleus (B) Preoptic nucleus  
(C) Paraventricular nucleus (D) Posterior hypothalamus
- 56 Hormone associated with cold adaptation is  
(A) Melanocyte-stimulating hormone  
(B) Growth hormone  
(C) Insulin  
(D) Thyroxine
- 57 Life span of sperm in female genital tract is  
(A) 1-2 min (B) 1-2 hrs  
(C) 1-2 days (D) 1-2 months
- 58 All the statements about descent of testes are true, EXCEPT  
(A) Failure of descent of testes is called cryptorchidism  
(B) Normal spermatogenesis fails to occur in undescended testes  
(C) Temperature of testes is higher in scrotum  
(D) Hormone testosterone is responsible for the descent

- 59 Testosterone secretion is controlled by  
 (A) Spermatogenesis  
 (B) Luteinising hormone  
 (C) Follicle stimulating hormone  
 (D) All of the above
- 60 Hormone which is directly responsible for puberty changes in males is  
 (A) Gonadotropin releasing hormone  
 (B) Gonadotropic hormone  
 (C) Testosterone  
 (D) None of the above
- 61 Hormone responsible for preovulatory phase of ovarian cycle  
 (A) LH (B) FSH  
 (C) Progesterone (D) None of the above
- 62 Irrespective of the duration of ovarian cycle, ovulation always occurs  
 (A) 14 days after onset of menstruation  
 (B) 14 days before onset of next menstruation  
 (C) Exactly during mid cycle  
 (D) All of the above
- 63 Fertile period of female sexual cycle is  
 (A) During menstrual phase  
 (B) First 8 days after menstrual phase  
 (C) One day prior to one day after ovulation  
 (D) 4 days before initiation of menstrual phase
- 64 Rise in body temperature by 0.5 degree F in postovulatory phase is due to  
 (A) Oestrogen (B) Progesterone  
 (C) FSH (D) All of the above
- 65 Presence of the following in urine is the basis of pregnancy diagnosis test  
 (A) Oestrogen  
 (B) Progesterone  
 (C) Human chorionic somatostatin  
 (D) Human chorionic gonadotropin



66. Following statements are true for corpus luteum, EXCEPT
- (A) Secretes progesterone
  - (B) Increases in size and life span during pregnancy
  - (C) Is responsible for ovulation
  - (D) Is essential for maintenance of pregnancy during first trimester
67. After vasectomy
- (A) There are no sperms in semen
  - (B) There is no testosterone secretion
  - (C) Male secondary sexual characters disappear
  - (D) All of the above
68. During action potential opening of activation gates of  $\text{Na}^+$  channels causes
- (A) Depolarisation
  - (B) Repolarisation
  - (C) Positive after potential
  - (D) Negative after potential
69. Saltatory conduction
- (A) Requires more energy
  - (B) Has faster rate of conduction
  - (C) Occurs in unmyelinated nerve fibre
  - (D) All of the above
70. Depolarisation in a nerve fibre is due to
- (A)  $\text{Na}^+$  ion influx
  - (B)  $\text{K}^+$  ion influx
  - (C)  $\text{K}^+$  ion efflux
  - (D)  $\text{Na}^+$  ion efflux
71. Chronaxie is minimum in
- (A) Skeletal muscle fibre
  - (B) Cardiac muscle fibre
  - (C) Large myelinated nerve fibre
  - (D) Small unmyelinated nerve fibre
72. Among the muscles
- (A) Smooth muscle has poorly developed sarcoplasmic- T tubular system
  - (B) Cardiac muscle has one T- tubule per sarcomere
  - (C) Skeletal muscle is most excitable
  - (D) All of the above

- 73 "C" group nerve fibres  
 (A) Are of large diameter  
 (B) Have slowest rate of conduction  
 (C) Carry impulses from Ruffini's end organs  
 (D) Supply Meissner's corpuscles
- 74 "A gamma" type of nerve fibres supply  
 (A) Extrafusal skeletal muscle fibres  
 (B) Intrafusal fibres of muscle spindle  
 (C) Annulospiral endings of muscle spindle  
 (D) Smooth muscle fibres
- 75 Neurotransmitter at neuromuscular junction is  
 (A) Epinephrine (B) Norepinephrine  
 (C) Serotonin (D) Acetylcholine
- 76 Unidirectional conduction is seen in  
 (A) Motor nerve fibres (B) Sensory nerve fibres  
 (C) Synapse (D) All of the above
- 77 Resting membrane potential in SA nodal fibres is  
 (A) -90 mv (B) +49 mv  
 (C) Stable (D) Unstable
- 78 Inotropic effect in heart relates to  
 (A) Excitability of cardiac muscle  
 (B) Heart rate  
 (C) Conduction speed of cardiac impulse  
 (D) Force of contraction of heart
- 79 During cardiac cycle  
 (A) AV valves remain closed during isometric contraction phase  
 (B) Semilunar valves open at the beginning of rapid ejection phase  
 (C) Closure of semilunar valves produces second heart sound  
 (D) All of the above
- 80 Normal ejection fraction is  
 (A) 20% (B) 60%  
 (C) 90% (D) 100%



- 81 Stroke volume is
- (A) Volume of blood ejected out by left ventricle in 1 sec
  - (B) Volume of blood ejected out by each ventricle in 1 heart beat
  - (C) Volume of blood ejected out by right ventricle in 1 min
  - (D) Difference in volume of blood ejected out by left and right ventricles
- 82 Within physiological limits venous return to the heart
- (A) Decreases heart rate
  - (B) Increases cardiac output
  - (C) Decreases systolic blood pressure
  - (D) None of the above
- 83 Heart rate
- (A) Increase is known as bradycardia
  - (B) Increases with increase in vagal tone
  - (C) Is low in hyperthyroidism
  - (D) Is low in athletes under resting condition
- 84 P wave of ECG occurs
- (A) Before atrial contraction begins
  - (B) At the end of atrial contraction
  - (C) At the beginning of ventricular contraction
  - (D) At the end of ventricular contraction
- 85 Mary's law states that
- (A) Heart rate is directly proportional to blood pressure
  - (B) Blood pressure is directly proportional to heart rate
  - (C) Heart rate is inversely proportional to blood pressure
  - (D) Blood pressure is inversely proportional to heart rate
- 86 During exercise all changes occur, EXCEPT
- (A) Increased sympathetic tone to heart
  - (B) Increased vagal tone to heart
  - (C) Increased respiration
  - (D) Vasodilatation in exercising muscles

- 87 Renin is  
(A) A hormone  
(B) An enzyme  
(C) A powerful vasoconstrictor  
(D) All of the above
- 88 First heart sound  
(A) Is produced due to closure of semilunar valves  
(B) Is best heard in aortic area  
(C) Has higher pitch than second heart sound  
(D) None of the above
- 89 Coronary blood flow is maximum in  
(A) Rapid ejection phase  
(B) Slow ejection phase  
(C) Isometric contraction phase  
(D) Isometric relaxation phase
- 90 Which of the following has fastest rate of impulse conduction  
(A) Atrial muscle fibres  
(B) AV Nodal fibres  
(C) Ventricular muscle fibres  
(D) Purkinje fibres of ventricular muscle
- 91 Anterior spinothalamic tract carries sensation of  
(A) Crude touch (B) Fine touch  
(C) Pain and temperature (D) Vibration
- 92 In spinal cord  
(A) Posterior horn cells are motor  
(B) Anterior horn cells are sensory  
(C) Anterior horn cells are of alpha and gamma type  
(D) All of the above
- 93 Following is an example of monosynaptic reflex  
(A) Withdrawal reflex (B) Stretch reflex  
(C) Golgi tendon reflex (D) Righting reflex



- 94 Thalamus is sensory relay station for all, EXCEPT  
(A) Visual sensation (B) Auditory sensation  
(C) Olfactory sensation (D) Proprioception
- 95 Increase in Salivary secretion at the sight of food is  
(A) Conditioned reflex  
(B) Unconditioned reflex  
(C) Is due to vagus nerve  
(D) None of the above
- 96 In hemisection of spinal cord, below the level of lesion there is  
(A) Loss of pain and temperature sensations on the same side  
(B) Loss of deep sensations on opposite side  
(C) Upper motor neurone lesion on the same side  
(D) Lower motor neurone lesion on the opposite side
- 97 Parkinson's disease is due to damage of  
(A) Putamen  
(B) Globus pallidus  
(C) Dopaminergic cells of substantia nigra  
(D) All of the above
- 98 Delta waves in EEG occur during  
(A) Deep sleep (B) Light sleep  
(C) REM sleep (D) Awake state
- 99 Following is a superficial reflex  
(A) Knee jerk (B) Abdominal reflex  
(C) Micturition reflex (D) Enterogastric reflex
- 100 Lower motor neuron lesion is associated with  
(A) Loss of touch sensation  
(B) Hypotonia  
(C) Exaggerated tendon reflex  
(D) Rigidity

SPACE FOR ROUGH WORK

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- 16. In a transformer, the primary and secondary windings are placed on a common magnetic core. The primary winding is connected to an AC source. The secondary winding is connected to a load. The primary current is  $I_1$  and the secondary current is  $I_2$ . The primary voltage is  $V_1$  and the secondary voltage is  $V_2$ . The primary resistance is  $R_1$  and the secondary resistance is  $R_2$ . The primary reactance is  $X_1$  and the secondary reactance is  $X_2$ . The primary leakage flux is  $\Phi_{l1}$  and the secondary leakage flux is  $\Phi_{l2}$ . The mutual flux is  $\Phi_m$ . The primary induced EMF is  $E_1$  and the secondary induced EMF is  $E_2$ . The primary terminal voltage is  $V_1$  and the secondary terminal voltage is  $V_2$ . The primary power input is  $P_1$  and the secondary power output is  $P_2$ . The primary copper loss is  $P_{c1}$  and the secondary copper loss is  $P_{c2}$ . The primary iron loss is  $P_{i1}$  and the secondary iron loss is  $P_{i2}$ . The primary stray loss is  $P_{s1}$  and the secondary stray loss is  $P_{s2}$ . The primary efficiency is  $\eta_1$  and the secondary efficiency is  $\eta_2$ . The primary regulation is  $\Delta V_1$  and the secondary regulation is  $\Delta V_2$ . The primary no-load current is  $I_{01}$  and the secondary no-load current is  $I_{02}$ . The primary short-circuit current is  $I_{sc1}$  and the secondary short-circuit current is  $I_{sc2}$ . The primary maximum efficiency is  $\eta_{max1}$  and the secondary maximum efficiency is  $\eta_{max2}$ . The primary maximum efficiency occurs at a load factor of  $\cos \phi_{max1}$  and the secondary maximum efficiency occurs at a load factor of  $\cos \phi_{max2}$ . The primary maximum efficiency is  $\eta_{max1}$  and the secondary maximum efficiency is  $\eta_{max2}$ . The primary maximum efficiency is  $\eta_{max1}$  and the secondary maximum efficiency is  $\eta_{max2}$ .

