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(एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)  
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Entrance Examination 2020- Neuroanaesthesia ( DM\_ PDCC)

Sl No	Question	Answer	OptionA	OptionB	OptionC	OptionD
1	A phase II block is seen in which of the following relaxant?	C	Vecuronium	Rocuronium	scoline	cis atracurium
2	Normal Functional residual capacity in a healthy adult is;	A	3-4 litres	1-2 litres	5-6 litres	none
3	The reflex that is responsible for the maintenance of arterial blood pressure in normal human is;	B	Chemoreceptor reflex	Baroreceptor reflex	Bainbridge reflex	Bazold-Jarisch reflex
4	The system implicated in pathophysiology of postoperative ileus is	C	Immune system	Autonomic nervous system	Both	none
5	Percentage ration of renal blood flow in cortex:medulla is	D	80%:20%	60%:40%	50%:50%	94%:6%
6	As per ASRA guidelines regarding- postoperative epidural catheter is to be removed	A	2 hours before first Low molecular weight heparin(LMWH) dose	4 hours before first LMWH dose	6 hours before first LMWH dose	8hours before first LMWH dose
7	Which of the following intravenous fluid is iso osmolar	B	0.45% Sodium chloride	0.9% Sodium chloride	Ringer lactate	Dextrose normal saline
8	Lung isolation can be achieved by	D	Double lumen tube	Bronchial blockers	Single lumen tube	All of the above
9	Not a component of modified ALDRETE recovery score is?	A	Verbal response	Consciousness	activity	Respiration
10	In pediatric patients during first 12 hrs postoperative period, the intravenous fluid administration is guided by	B	4,2,1 rule	2,1,0.5 rule	5ml/kg body wt	2ml/kg body wt
11	Most specific diagnostic test for preoperative pheochromocytoma detection is	A	Vanillylmandelic acid (VMA) excretion	Catecholamine excretion	Metanephrine excretion	Abdominal CT Scan
12	Ultrashort acting neuromuscular blocking agent is	C	Cisatracurium	Mivacurium	Gantacurium	rocuronium
13	Relationship of anesthesia to operative morbidity and mortality is adressed by	D	White and Punjabi classification	Glasgo coma scale	Gurds criteria	Edwards classification
14	METS equivalent of gardening activity is	B	5	4	6	8
15	BARALYME Contains	B	20% calcium hydroxide and 80% barium hydroxide	80% calcium hydroxide and 20% barium hydroxide	50% calcium hydroxide and 50% barium hydroxide	None
16	EL-GANZOURI RISK INDEX is used for	A	Difficult airway assesment	Postoperative pain assesment	Postoperative hepatic dysfunction assesment	renal replacement therapy assesment
17	Signs of autonomic neuropathy does not include	C	Resting tachycardia	Gastroparesis	orthostatic hypertension	anhidrosis
18	Which anesthetic agent has antiemetic property	B	Ketamine	Propofol	dexmedetomidine	Thiopentone
19	Boiling point of Desflurane in celcius is	A	22.8	48.5	58.5	50.2
20	False statement regarding geriatric patient for anesthesia	B	An important principle of aging is a progressive loss of functional reserve in all organ systems	Older patients are less sensitive to anesthetic drugs.	Postoperative cognitive dysfunction (POCD) in older patients occurs in the first days to weeks after surgery.	The success of surgical intervention in geriatric patients depends partly on whether patients can return to their previous level of activity and independence.

21	Regarding Fat embolism syndrome (FES) the false statement is;	D	is a physiologic response to fat within the systemic circulation.	Schonfeld index is used in fat embolism syndrome	A petechial rash is pathognomonic of FES	The embolization of fat can be detected in almost all patients who sustain a pelvic or femoral fracture, but the incidence of FES is 10%
22	Anaesthetic agent which causes adrenocortical suppression is	C	Enflurane	Ketofol	Etomidate	propofol
23	Changes on immersion during lithotripsy does not include	B	Increased central blood volume	Increased Functional residual capacity (FRC)	Increased pulmonary artery pressure	Decreased vital capacity
24	Physiological changes following aortic clamping and therapeutic intervention does not include;	A	Increase in CVP	Reduction in venous return	reduction in myocardial contractility	increase in pulmonary artery pressure
25	Body mass index (BMI) score of 35-39.9 means	B	Class I obese	class 2 obese	class 3 obese	super-obese
26	The following monitor is sometimes termed as stethoscope of brain	B	NIRS (Near infrared spectroscopy)	TCD (Transcranial Doppler)	Bispectral index monitor	Intracranial pressure monitor
27	The following change in SSEP (somatosensory evoked potential) is considered significant and raises concern-	D	Increase in latency more than 50%	Increase in amplitude more than 10%	Decrease in latency more than 10%	Increase in amplitude more than 50%
28	The following are grading system for aneurysmal Subarachnoid Haemorrhage except	A	Marshall's	Modified Fisher's	Hunt and Hess	WFNS
29	Recommended intraoperative blood glucose level to be maintained in Neurosurgical patient is-	B	< 200mg/dl	< 180 mg/dl	< 140 mg/dl	<120mg/dl
30	Which of the following can be used for both <i>prevention and treatment</i> of intraoperative brain bulge during surgery for supratentorial brain tumors?	D	Euvolemia	CSF drainage	Mild controlled hypotension	Osmotherapy
31	Venous air embolism is more commonly seen in surgeries in which of the following position?	D	Supine with head up	Prone	Park bench	Sitting
32	The dose of protamine to reverse heparin is-	C	1 mg Protamine for every initial 1000 units of heparin	1.5 mg Protamine for every initial 1000 units of heparin	1 mg Protamine for every initial 100 units of heparin	1.5 mg Protamine for every initial 100 units of heparin
33	Cardiac standstill to achieve clipping of large intracranial aneurysm with broad neck is achieved using	B	Diltiazem	Adenosine	Verapamil	Esmolol
34	Most sensitive non invasive monitor to detect venous air embolism is	D	Transesophageal echocardiography	end tidal CO2 monitoring	End tidal nitrogen monitoring	Precordial doppler
35	Which of the following anesthetic agent causes maximum increase in intracranial pressure	A	Nitrous oxide	Isoflurane	Sevoflurane	Desflurane
36	Worst headache of lifetime is seen in the following condition	C	Migraine	Tension headache	Subarachnoid hemorrhage	Sinusitis
37	Massive blood loss and blood transfusion is seen in following surgery	A	Craniosynostosis surgery	Endoscopic third ventriculostomy	VP shunt surgery	Single level lumbar discectomy surgery
38	The best mode of intubation for unstable upper cervical spine fracture injury is	C	Videolaryngoscope	Bougie with Mc Coy scope	Awake fiberoptic intubation	Fiberoptic intubation under general anesthesia
39	Which fluid is not recommended in severe Traumatic brain injury	B	0.9% Normal saline	Ringer lactate	Plasmalyte A	3% saline
40	False statement about use of steroid in neurosurgery is	C	administration of steroids for the purpose of reducing or limiting the formation of edema has a well-established place in neurosurgery.	administration beginning 48 hours before an elective surgical procedure has the potential to reduce edema formation	Steroid can be administered in patients with severe TBI	Although clinical improvement occurs within 24 hours, a reduction in ICP may not occur for 48 to 72 hours after the initiation of therapy

41	False statement about Osmotherapy is	D	In the critical care environment, the use of hypertonic saline (HTS) in place of mannitol is increasing.	Mannitol should be administered by infusion (e.g., over 10 to 15 minutes).	The use of hyperosmolar agents is theoretically limited by an upper acceptable osmolarity limit of approximately 320 mOsm/L	The dose of mannitol vary from 1.5 g/kg to 2g/kg
42	False statement about therapeutic hypothermia is	A	Mild hypothermia helps to improve neurological outcome for neurologically ill patient	Mild hypothermia is routinely used for post resuscitated witnessed cardiac arrest patients	Both	None
43	Intraoperative Cardiovascular changes are most commonly seen in following neurosurgical procedure	B	Supratentorial surgeries	posterior fossa surgeries	Transnasal transsphenoidal surgery	Lumbar discectomy
44	T-cell-mediated Delayed hypersensitivity response is termed as	D	Type 1 Hypersensitivity	Type 2 Hypersensitivity	Type 3 Hypersensitivity	Type 4 Hypersensitivity
45	The osmolality of Plasma Lyte in mOsm/Kg is	A	295	273	308	310
46	The following factors affect the Motor Evoked Potential monitoring, Except,	B	Inhalational agents	Opioids	Mean Blood pressure	Temperature
47	The following is true regarding the West Zone 3	D	Pa > PA > Pv	Pa > Pints > Pv > PA	PA > Pa > Pv	Pa > Pv > PA
48	Anti-Diuretic Hormone acts on	B	Distal convoluted tubule	Collecting duct	Proximal convoluted tubule	Loop of Henle
49	All are true about occulo cardiac reflex except,	C	may be seen more often with procedures under topical anaesthesia	pretreatment with atropine can be effective	retrobulbar block is effective in prevention	trigeminovalagal reflex
50	Normal brain tissue oxygen tension (PbtO2):	B	10 – 25mm of Hg	20 – 45mm of Hg	50 - 75 mm of Hg	80 - 95 mm of Hg
51	Serum osmolality is calculated as, Serum osmolality =	C	(serum Na)/2 + glucose/18 + BUN/2.8	(serum Na) × 2 + serum K + glucose/16 + BUN x 2.8	(serum Na) × 2 + glucose/18 + BUN/2.8	(serum Na) × 2 + glucose x 18 + BUN/2.8
52	Pin index of Nitrous oxide cylinder is;	C	1:5	2:5	3:5	04:05
53	Normal global Cerebral Blood Flow is	A	45-55 mL/100 g/min	80-90 mL/100 g/min	60-70mL/100 g/min	30-40 mL/100 g/min
54	The target blood sugars advocated in the perioperative neurosurgical population is:	C	70 – 110mg/dl	110 – 10mg/dl	140 – 180mg/dl	180 – 200mg/dl
55	Compared with plasma, CSF contains higher concentrations of	D	Glucose	Bicarbonate	Calcium	Chloride
56	Which of the following anaesthetic agents increases the cerebral blood flow?	C	Barbiturates	Etomidate	Ketamine	Propofol
57	Impending herniation in ICP monitoring is characterized by	A	Lundberg A Waves	Lundberg B Waves	Lundberg C Waves	Lundberg D Waves
58	Followings are components of “Tetralogy of fallot”; Except	D	Pulmonary stenosis	Overriding of aorta	Ventricular septal defect	Left ventricular hypertrophy
59	A 5 second head lift corresponds to a Train of Four (TOF) ratio of	A	0.5	0.7	0.8	0.9
60	The drug of choice for refractory hypotension following use of ACE inhibitor is	D	Dopamine	Dobutamine	Noradrenaline	Vasopressin
61	Higher scores of Mallampati classification denotes which of following condition?	B	Anterior larynx	Large tongue	Hypoplastic mandible	High arched palate
62	Metabolic alkalosis is seen in	A	Fluid deficit	Hyponatremia	Hyperphosphatemia	Hyper chloremia
63	Ambulatory surgery should not be advised in:	C	Obese patients	Patients with history of bronchial ashtma	Premature infants	Patients with hypertension
64	The optimal LMA size of 8 kg child is	C	0	1	1.5	2
65	Which of the following is TRUE regarding smokers compared to normal undergoing anesthesia?	B	Anesthesia leads to significant atelectasis in smokers	Anesthesia leads to increased deterioration of oxygenation in smokers	Anesthesia leads to significant increase in shunt in smokers	Anesthesia improves the air flow limitation in smokers

66	Nimodipine has been found to be useful in the management of	A	Prophylaxis against vasospasm in aneurysmal SAH	Treatment of delayed ischemic neurologic deficit following SAH	Treatment of intraoperative ischemic events	Treatment of stroke
67	Which of the following agents has the least protective effect from ischemic brain injury?	D	Etomidate	Xenon	Ketamine	Fentanyl
68	Which of the following anesthetics has least effect on Cerebral autoregulation ?	C	Halothane	Nitrous oxide	Sevoflurane	Desflurane
69	Which of the brain areas has endothelial tight junctions ?	D	Area postrema	Choroid plexus	Pituitary	Locus ceruleus
70	Which of the cranial nerves carry parasympathetic fibres?	A	Cranial nerve III	Cranial nerve IV	Cranial nerve V	Cranial nerve VI
71	Lowest score of Glasgow coma scale is	C	1	2	3	0
72	Advantages of early surgery in aneurysmal SAH include all except	D	Lower chance of rebleeding	Lower the incidence of vasospasm	Early administration of triple H therapy	Preserved autoregulation of cerebral blood flow
73	All of these factors can cause reversal of adult circulation to fetal circulation in a neonate except;	B	Hypoxia	Hypocapnea	Hypothermia	Prematurity
74	Pharmacodynamics refers to;	A	Relationship between drug concentration and pharmacological effect	Relationship of drug dose and drug concentration in plasma	Is a function of volume of distribution	Is related to biophase
75	All of the following are properties of Opioids EXCEPT	B	Analgesic effect	Antiemetic effect	Antitussive effect	Respiratory depressant effect
76	The ancillary tests used for determination of brain death include all except	A	MRI scan	Digital subtraction angiography	EEG	Transcranial Doppler
77	Following are suggestive of fetal well being except	D	Fetal heart rate (FHR) of 140/min	Presence of FHR variability	FHR accelerations	Late decelerations of FHR
78	The most common cause of hyponatremia is	A	Syndrome of Inappropriate ADH secretion	Cerebral salt wasting syndrome	Diabetes Insipidus	Use of hyponatremic IV fluids
79	The current recommendation for treatment window for intravenous thrombolysis for acute stroke is	C	2.5 hours	3.5 hours	4.5 hours	6 hours
80	Commonest cause of postoperative visual loss following spinal surgery is	A	Ischemic optic neuropathy	Central retinal vein occlusion	Corneal abrasion	Vitrous hemorrhage
81	Atelectasis during anesthesia can be reduced by all EXCEPT	A	Preoxygenation with 100% O <sub>2</sub> for 3 minutes	Use of CPAP	Avoidance of muscle relaxation	Ketamine based anesthesia
82	The predominant anion of extracellular fluid (ECF) is	B	HCO <sub>3</sub>	Chloride	albumin	sodium
83	The ideal fluid for routine fluid replacement in children is	C	5% dextrose	10% dextrose	Ringer lactate	5% dextrose in 0.45 saline solution
84	Which among the following is INCORRECT regarding postoperative shivering?	C	The incidence of postoperative shivering may be as high as 65% after general anesthesia	The incidence may be approximately 33% after epidural anesthesia	Female gender is a risk factor	Propofol is commonly associated with shivering than pentothal
85	Drugs Contributing to Prolonged Nondepolarizing Neuromuscular Blockade include all EXCEPT:	D	Inhaled anesthetic drugs	Local anesthetics (lidocaine)	Antibiotics	Neostigmine
86	The amount of noninflated tissue that is reexpanded by a given level of PEEP is termed as:	C	Shunt	Dead space	Alveolar recruitment	Functional residual capacity
87	Regarding cryoprecipitate, which is incorrect?	B	Contains significant levels of Factor VIII and fibrinogen	Can be administered without a filter	The rate of administration should be at least 200 mL/hr	Infusion should be completed within 6 hours of thawing
88	Anion Gap (modern) is calculated as:	B	(Na + K) – (Cl+HCO <sub>3</sub> )	(Na + K) – (Cl+HCO <sub>3</sub> + lactate)	Na-(Cl+ HCO <sub>3</sub> )	(Na+K)-lactate
89	The spinal cord in the adult extends to the vertebral level of :	A	L1/L2	L3/L4	T12/L1	L4/L5
90	Physiologic effects of head elevated position are all EXCEPT:	B	Decreased cerebral perfusion pressure	Decreased cerebral venous drainage	Increased venous pooling in lower extremities	Postural hypotension
91	Most commonly seen issues with long term anticonvulsant therapy includes all EXCEPT:	D	Hepatic abnormalities	Hematologic abnormalities	Increased metabolism of anesthetic agents	Decreased metabolism of anesthetic agents

92	Regarding Postobstructive pulmonary edema, which is CORRECT?	C	It is an exudative edema	Patients who are muscularly healthy are at reduced risk	Treatment is supportive and includes supplemental oxygen, diuresis etc	The resultant arterial hypoxemia is usually observed only after 90 minutes
93	The bolus dose( $\mu$ g) and lock out interval(min) recommended for fentanyl for adults during intravenous patient controlled analgesia respectively are	A	10-20 and 4-10	2-5 and 20-30	40-50 and 20-30	50-60 and 20-30
94	The main substance used for energy production in the brain is:	A	Glucose	Lactose	Ketone bodies	Galactose
95	Which of the following is used to calculate Cerebral perfusion pressure	D	Diastolic arterial blood pressure – Intracranial pressure	Systolic blood pressure – Intracranial pressure	Central venous pressure – Intracranial pressure	Mean arterial blood pressure – Intracranial pressure
96	The rate of CSF formation in humans	C	6 to 8 mL/day	40 to 70 mL/day	500 to 600 mL/day	800 to 900 mL/day
97	The pupil is considered “dilated” if pupillary diameter is	C	> 2 mm.	> 3 mm.	> 4 mm.	> 5 mm.
98	The phenomenon by which vasoconstriction in the normal brain may result in redistribution of blood to ischemic regions is known as	B	Ischemic steal	Robin Hood effect	Cerebral Steal	Circulatory breakthrough
99	Severe OSA is defined as apnoea/hypopnea index of more than	A	30	15	25	20
100	The following will cause shift of oxyhaemoglobin curve to left; Except	D	Decreased PaCO <sub>2</sub>	Alkalosis	Decreased temperature	High altitude