

श्री चित्रातिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेंद्रम, केरल-695 011
(एकराष्ट्रीय महत्वका संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)
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ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2025

Program: PDCC in Hospital Infection Control

Time: 90 Minutes

Max.Marks: 100

(Select the most appropriate answer)
(There are **no negative** marks for wrong answers)

1	What is the first link in the chain of transmission of infection?
a	Reservoir
b	Infectious agent
c	Portal of entry
d	Mode of transmission
2	What type of transmission occurs when a person uses a towel previously used by an affected individual
a	Airborne
b	Direct contact
c	Indirect contact
d	Vector-borne
3	In a patient cohort area, the minimum separation distance between patient beds is
a	1.5 feet
b	2.5 feet
c	3 feet
d	5 feet
4	Which among the following is NOT a critical item?
a	Prosthetic valve
b	Cardiac catheter
c	Cystoscope
d	Surgical blade
5	Which among the following concentration of sodium hypochlorite is recommended for inactivation of prions?
a	1%
b	1.5%
c	2%
d	5%
6	Which among the following disinfectants is NOT inactivated by organic matter?
a	Phenol
b	Sodium hypochlorite
c	Isopropyl alcohol
d	Hydrogen peroxide

7	What is the concentration of peracetic acid used for sterilization?	
	a	0.01 – 0.03%
	b	0.02 – 0.05%
	c	0.1 – 0.2%
	d	0.2 – 0.3%
8	WHO's Antimicrobial Awareness Week (WAAW) is celebrated every year on	
	a	November 12-18
	b	November 18-24
	c	November 24-30
	d	November 8-12
9	Which among the following antiseptic classes have no mycobactericidal action?	
	a	Alcohol
	b	Iodophors
	c	Phenol derivatives
	d	Quarternary ammonium compounds
10	The ideal time to start the first dose of post-exposure prophylaxis (PEP) after exposure to HIV-positive needle stick injury is	
	a	Within 2 hours
	b	Within 24 hours
	c	Within 72 hours
	d	Within 96 hours
11	The recommended parts per million (ppm) of chlorine for disinfecting blood spills is	
	a	100
	b	1000
	c	10000
	d	100000
12	What is the protective cut-off antibody titre for Anti-HBs antibody?	
	a	10mIU/ml
	b	50mIU/ml
	c	100mIU/ml
	d	1000mIU/ml
13	What among the following is the incubation period for measles?	
	a	3-5 days
	b	7-10 days
	c	10-14 days
	d	3-4 weeks
14	What is the appropriate time for hygienic hand rub?	
	a	20-30 sec
	b	30-40 sec
	c	40-60 sec
	d	10-20 sec
15	What does the 'N' in N95 stand for?	
	a	Not resistant to oil
	b	Non-filtering
	c	Non-particulate
	d	NIOSH-certified

16	What is the average rate of HBV sero-conversion after an accidental exposure to blood (AEB) (for per-cutaneous exposure)	
	a	0.03%
	b	0.3%
	c	3%
	d	30%
17	What is the minimum pressure differential to maintain positive pressure flow in an isolation room?	
	a	2.5 Pa
	b	5 Pa
	c	10 Pa
	d	20 Ps
18	Which among the following is the commonest infection transmitted while handling cadavers?	
	a	HIV
	b	Hepatitis B
	c	Hepatitis C
	d	Tuberculosis
19	What is the cut-off number of days to differentiate Early vs Late VAP?	
	a	2 days
	b	4 days
	c	7 days
	d	14 days
20	As per NABH recommendations, what is the minimum number of fresh air changes per hour (ACH) of the total ACH, in a Type A Operation theatre?	
	a	4
	b	6
	c	7
	d	8
21	In maintenance care bundle for prevention of VAP, the tracheal tube cuff pressure is to be maintained between _____ cm H ₂ O	
	a	10-20
	b	20-30
	c	30-40
	d	40-50
22	Which is the correct sequence of removing PPE?	
	a	Gloves-Gown-Eye wear-Mask
	b	Gloves-Mask-Eye wear-Gown
	c	Gloves- Eyewear -Mask-Gown
	d	Gown – Mask – Eyewear – Gloves
23	What does the following formula represent ? True Negatives (TN)/True Negatives (TN) + False positives(FP) x100	
	a	Sensitivity
	b	Specificity
	c	Positive predictive value
	d	Negative predictive value
24	Which among the following is NOT a NS5A polymerase inhibitor?	
	a	Daclatasvir
	b	Ombitasvir
	c	Velpatasvir
	d	Sofosbuvir

25	Which of the following is NOT a component of Visual Infusion Phlebitis(V.I.P) Scoring	
	a	Redness
	b	Palpable venous cord
	c	Fever
	d	Leucocytosis
26	Administration sets in continuous use for blood and blood components should be changed every	
	a	6 hours
	b	8 hours
	c	10 hours
	d	12 hours
27	Biological indicator used for vaporized H ₂ O ₂ sterilization is	
	a	<i>Bacillus subtilis</i>
	b	<i>Bacillus atrophaeus</i>
	c	<i>Geobacillus stearothermophilus</i>
	d	<i>Clostridium tetani</i>
28	Which among the following organism is intrinsically resistant to meropenem?	
	a	<i>Aeromonas veronii</i>
	b	<i>Providencia rettgeri</i>
	c	<i>Burkholderiacepacia</i>
	d	<i>Stenotrophomomasmaltophilia</i>
29	What type of vaccine preparation is currently used for HPV vaccination?	
	a	Viral vector
	b	Virus-like particle
	c	mRNA
	d	Lipid nanocoating
30	WHO recommends repeat dosing of pre-operative surgical antimicrobial prophylaxis (SAP) when there is bleeding of _____	
	a	>1 lit
	b	>1.5 lit
	c	> 2 lit
	d	> 2.5 lit
31	Which among the following is a live vaccine?	
	a	HPV vaccine
	b	Hepatitis B vaccine
	c	Yellow fever vaccine
	D	COVID vaccine
32	For SSI reduction, ____% Fio ₂ recommended by WHO during the intraoperative and immediate post-operative period (upto 6 hours) for adult patients undergoing general anaesthesia with tracheal intubation for surgical procedures	
	a	70
	b	80
	c	90
	D	99

33	In which of the following situations, alcoholic hand rub is NOT the recommended method of hand hygiene	
	a	MRSA wound infection
	b	UTI due to Vancomycin-resistant <i>Enterococci</i>
	c	Diarrhoea due to <i>C. difficile</i>
	d	VAP due to Colistin resistant <i>Klebsiella</i>
34	Which among the following WHO hand hygiene moments is the most missed during clinical practice?	
	a	Moment 2
	b	Moment 3
	c	Moment 4
	d	Moment 5
35	In which of the following color bags, the following category of waste is discarded: Surgical Mask	
	a	Yellow
	b	Red
	c	Blue
	d	Black
36	A 34-year-old male diagnosed with food poisoning and a stool sample grows <i>Salmonella</i> Typhimurium. What appropriate advice should be given regarding return to work?	
	a	After 3 negative stool cultures
	b	Immediately as long as strict hand hygiene is observed
	c	Immediately after symptoms have resolved
	d	48 hours after symptoms have resolved
37	Which among the following is NOT included in qSOFA score?	
	a	Systolic blood pressure
	b	Glasgow coma scale
	c	Respiratory rate
	d	Heart rate
38	Which among the following doesn't belong to category 4 pathogens as per Advisory committee on Dangerous pathogens (ACDP) classification?	
	a	MERS-CoV
	b	CCHF virus
	c	Smallpox
	d	Hendra virus
39	Erythema infectiosum is caused by	
	a	Human Parvo virus
	b	HHV-5
	c	HHV-6
	d	Erythro virus
40	What is the expected gentamicin peak level for therapeutic drug monitoring?	
	a	<1 mg/L
	b	1-2 mg/L
	c	3-5 mg/L
	d	10-15 mg/L

41	Which among the following fungi gives false-negative Beta-D-Glucan assay?
a	Aspergillus fumigatus
b	Penicillium marneffeii
c	Fusarium solani
d	Pseudallescheria boydii
42	MERCY trial reported the PK-PD parameter of which among the following antibiotics?
a	Meropenem
b	Colistin
c	Ceftazidime avibactam
d	Minocycline
43	What is the antigenic composition of the recently FDA approved RSV vaccine?
a	Attachment glycoprotein (G)
b	Matrix protein (M)
c	Fusion protein (F)
d	Membrane protein (MP)
44	Which among the following is NOT a mechanism of action of N95 mask?
a	Impaction
b	Diffusion
c	Absorption
d	Interception
45	What is the protective antibody level for Varicella post-vaccination/infection?
a	>10 mIU/ml
b	>100 mIU/ml
c	>5 mIU/ml
d	>50 mIU/ml
46	According to the WHO's five-year strategy (2019-2023), the GPW13 4b (13 th General Programme of Work) target for the percentage of antibiotic consumption from ACCESS group antibiotics is _____
a	100%
b	>80%
c	>60%
d	>50%
47	A 53-year-old female patient had recently undergone cardiac bypass surgery. On POD-3, her condition worsened and was diagnosed with MODS. Her creatinine level is 5.2 mg/dl. Her body weight is 62 kg. What's the eGFR/creatinine clearance?
a	12.25 ml/min
b	15.25 ml/min
c	17.25 ml/min
d	20.25 ml/min
48	Which among the following stains is used to demonstrate the capsule of cryptococcus?
a	Mason Fontana stain
b	Malachite Green
c	Alcian Blue
d	Fite- Faraco
49	Medlar bodies are observed in
a	Sporotrichosis
b	Histoplasmosis

	c	Chromoblastomycosis
	d	Subcutaneous zygomycosis
50	Which among the following viruses do NOT have segmented RNA as nuclear material?	
	a	Influenza
	b	Ebola
	c	Rota
	d	Lassa
51	Which of the following is the most difficult to prevent?	
	a	Respiratory infection outbreak
	b	Diarrhoea outbreak
	c	MRSA outbreak
	d	HIV spread
52	Which area requires positive pressure ventilation?	
	a	Source isolation ward
	b	Barrier isolation ward
	c	Chickenpox isolation ward
	d	Tuberculosis isolation ward
53	Which is a cohort study	
	a	Risk for Ventilator associated pneumonia
	b	Risk for Surgical Site Infection after cardiac surgery
	c	Cross sectional study
	d	Prognosis of post-CABG patients with SSI
54	Following are the parameters for a diagnostic test, EXCEPT:	
	a	Pre-test probability(PTP)
	b	Likelihood ratio(LR)
	c	Number needed to treat(NNT)
	d	Sensitivity
55	Which of the following is not a beta-lactam antibiotic	
	a	Moxifloxacin
	b	Penicillin
	c	Cefepime
	d	Meropenem
56	Vaccination against Hepatitis B	
	a	Consists of a single dose
	b	Is a live vaccine
	c	Effectiveness is assessed by antibody titre
	D	Is more effective than standard precautions.
57	Which among the following is a critical category equipment requiring sterilisation	
	a	BP apparatus
	b	Thermometer
	c	Oxygen probe
	d	Flexible endoscope
58	Which of the following is used to disinfect surfaces and soak rubber equipment before cleaning	
	a	Chlorine bleach
	b	Boiling water

	c	1%Phenol
	d	Iodine
59	Which of the following disinfectants acts by disrupting microbial membranes?	
	a	Glutaraldehyde
	b	Iodophors
	c	Cationic detergent
	d	Alcohol
60	Which of the following was the first widely used antiseptic and disinfectant?	
	a	Alcohol
	b	Phenol
	c	Chlorhexidine
	d	Quarternary ammonium compound
61	Which of the following has the longest incubation period	
	a	Influenza
	b	Chickenpox
	c	Nipah virus disease
	d	Mumps
62	The empirical antibiotic of choice in a patient with uncomplicated UTI:	
	a	Ampicillin
	b	Cefepime
	c	Tetracycline
	d	Vancomycin
63	Candida glabrata is inherently resistant to:	
	a	Fluconazole
	b	Flucytosine
	c	Amphotericin B
	d	Caspofungin
64	Percentage of chlorhexidine in the surgical hand rub?	
	a	1
	b	2
	c	3
	d	4
65	The most recent method for typing MRSA in an outbreak situation	
	a	PFGE
	b	MLST
	c	Phage typing
	d	spa typing
66	CSF culture:	
	a	For meningitis must be done on refrigerated CSF if there was delay in transportation
	b	May show aseptic meningitis picture in Leptospirosis
	c	A fibrin clot indicates <i>Hemophilus influenzae</i> meningitis
	d	Will show pus cells > 100-1000 per mm ³ in measles encephalitis
67	Significant bacteriuria is also seen in:	
	a	Tuberculosis of the kidney
	b	Delay in processing
	c	Contamination during collection
	d	Vaginal flora contamination
68	Prophylactic antibiotic chosen before surgery:	

	a	Is usually one that is least used in the facility
	b	Is based on antibiogram
	c	Is based on culture report of colonisers
	d	Is usually a high end antibiotic
69	Which among the following is a "clean-contaminated" category of surgical procedure?	
	a	Open cardiac massage
	b	Spillage from gastrointestinal tract during aneurysm surgery
	c	Appendicectomy
	d	Dry gangrene of foot
70	Gram positive bacilli isolated on blood agar with a hazy beta-hemolysis, minimal growth on MacConkey's agar and a blue colour in transmitted light is most probably	
	a	Listeria monocytogenes
	b	Clostridium welchii
	c	Erysipelothrix rhusiopathiae
	d	Bacillus anthracis
71	What are the common agents associated with healthcare-associated outbreaks in children?	
	a	Measles, mumps, and rubella
	b	Influenza virus, RSV, and adenovirus
	c	E. coli and Listeria
	d	Syphilis and HIV
72	For which of the following pathogens should you use handwashing with soap and water, to prevent infection	
	a	MRSA
	b	Clostridium difficile
	c	Pneumococci
	d	Hepatitis A virus
73	Categories of isolation precautions are all, EXCEPT:	
	a	Standard
	b	Barrier
	c	Contact
	d	Respiratory
74	Handwash is mandatory for	
	a	Before invasive procedures
	b	After touching patient
	c	Before touching patient
	d	Visible contamination with blood or body fluid
75	Which of the following viruses has not been associated with malignancy?	
	a	Hepatitis C Virus
	b	Hepatitis B Virus
	c	Varicella Zoster virus
	d	HSV 2
76	In a live attenuated viral vaccine, the virus	
	a	Retains its structure and function
	b	Does not replicate
	c	Have no genome
	d	Has no envelope
77	An outbreak of diarrhea and fever occurs in a hospital. Victims report that the fever started 12-16 hrs after the intake of food. Which pathogen is the most likely cause	

	a	C.difficile
	b	Non-typhoid Salmonella
	c	Norovirus
	d	Vibrio cholerae
78	A male baby is born at 39 weeks gestation with a petechial rash, low birthweight, hepatosplenomegaly and bilateral cataracts. This is thought to be due to which pathogen acquired while the baby was still in utero.	
	a	Rubella virus
	b	CMV
	c	Group B Streptococcus
	d	Toxoplasma gondii
79	Biological indicator used for ETO sterilization is	
	a	<i>Bacillus subtilis</i>
	b	<i>Bacillus atrophaeus</i>
	c	<i>Geobacillus stearothermophilus</i>
	d	<i>Clostridium tetani</i>
80	Toxoplasmosis is commonly transmitted through:	
	a	Mosquito bites
	b	Sexual contact
	c	Contaminated food or water
	d	Airborne droplets
81	The disease caused by the larval stage of Echinococcus granulosus is known as:	
	a	Hydatid disease
	b	Cysticercosis
	c	Ascariasis
	d	Taeniasis
82	Naegleriafowleri is usually found in	
	a	Warm salt water
	b	Cold sea water
	c	Warm, fresh water
	d	Contaminated drains
83	E.faecalis is differentiated from other enterococci by its ability to ferment	
	a	Pyruvate
	b	Glucose
	c	Arabinose
	D	Lactose
84	Viraemia in Dengue	
	a	Lasts longer in primary infection
	b	Peaks by 10-12 days of fever
	c	Cannot be detected by molecular methods
	d	Is the cause for dengue shock syndrome
85	Which of the following antibiotics shows post antibiotic effect	
	a	Penicillin
	b	Cefotaxime
	c	Amikacin
	d	Aztreonam

86	Aztreonam is	
	a	Resistant to ESBL
	b	Inactivated by AmpC
	c	Inactivated by Metallo beta lactamases of NDM type
	d	Resistant to KPC
87	Activity of Penicillin is not affected by	
	a	Bile
	b	Hydrochloric acid
	c	Cysteine
	d	Sodium Hydroxide
88	Antibiotic that does not achieve therapeutic levels in CSF	
	a	Cefoperazone
	b	Meropenem
	c	Vancomycin
	d	Cloxacillin
89	Following is an access antibiotic as per AWARE classification of WHO	
	a	Meropenem
	b	Doxycycline
	c	Ciprofloxacin
	d	Ceftazidime-Avibactam
90	Meropenem resistance is most commonly due to	
	a	Overexpression of efflux pumps
	b	Overproduction of AmpC
	c	Carbapenemases
	d	OprD overexpression
91	Antibiotic that can be used in infections of bone and deep tissues with anaerobic cover	
	a	Gentamicin
	b	Daptomycin
	c	Clindamycin
	d	Ampicillin
92	Which is the key component in the immunity against HIV being used in vaccine trials?	
	a	Antibody dependant cell mediated cytotoxicity(ADCC)
	b	IgM mediated neutralisation
	c	Opsonisation
	D	Interleukins
93	The common cause of resistance in C.auris is the presence of	
	a	Ergosterol biosynthesis gene(Erg2)
	b	Efflux pump encoding genes(CDR1)
	c	Mutations in the Glucan synthase gene(GSC 1)
	d	Mutation in the sterol demethylase gene(Erg11)
94	VRE endemicity in a hospital can be contained by	
	a	Fumigation
	b	Reducing high end antibiotics
	c	Cleaning , disinfection and aseptic precautions
	d	Hypochlorite use

95	Surveillance of VAP(as per CDC NHSN definition) is not done in	
	a	Neonatal ICU
	b	Cardiac Surgery ICU
	c	Medical ICU
	d	OBG ICU
96	A male patient in the neurology ICU, admitted for stroke and put immediately on ventilator, develops fever and increased secretions on the third day after admission. The patient was given DVT prophylaxis, sucralfate and was in a propped up position. What component of the VAP bundle is missing?	
	a	Hand hygiene
	b	Bed should be 6ft from the next bed
	c	Daily sedation vacation
	d	Maintain the pressure in the endotracheal tube
97	The blood culture of a patient in the surgical ICU grew <i>Pseudomonas aeruginosa</i> sensitive only to Colistin. Which specimen would yield the source of the organism leading to an intervention that involves source reduction?	
	a	Urine
	b	Pus swab from wound
	c	Sputum
	d	Femoral cannula tip
98	On routine examination of the urine of a chronic neurology patient catheterized at admission, who was asymptomatic, red cells, pus cells and bacteria were seen. Why did this happen?	
	a	Patient has asymptomatic bacteriuria
	b	Urine was centrifuged and examined
	c	Patient has renal tuberculosis
	d	Patient has acute pyelonephritis
99	Patient risk factors for Surgical site infection include all, EXCEPT:	
	a	Prolonged surgery
	b	Smoking habit
	c	Obesity
	d	Diabetes Mellitus
100	Post operative osteomyelitis is a	
	a	Organ-space SSI
	b	Deep SSI
	c	Superficial SSI
	d	Not an SSI