

বাংলাদেশ পল্লী বিদ্যুতায়ন বোর্ড
সহকারী প্রকৌশলী পদের MCQ পরীক্ষা - ২০২৪

পরীক্ষার সময়ঃ ৬০ মিনিট

মোট নম্বরঃ ৮০

1. A 4 pole generator with 16 coil has a 2-layer lap winding. The pole pitch is –
(a) 8 (b) 4
(c) 16 (d) 32
2. Choose the correct spelling from the followings-
(a) Antijen (b) Antegen
(c) Antigen (d) Antygen
3. The power density spectrum is a _____ function.
(a) square (b) Linear
(c) odd (d) even
4. An instantaneous change in voltage is not possible in a/an -
(a) resistor (b) inductor
(c) capacitor (d) current source
5. যে প্রতিষ্ঠান ৩ বার শান্তিতে নোবেল পুরস্কার পেয়েছে -
(a) UNICEF (b) ICRC
(c) IOM (d) UNHCR
6. The critical gradient for all soils is normally -
(a) 0.5 (b) 1
(c) 1.5 (d) 2.5
7. The primary current in a CT is dictated by the –
(a) secondary burden (b) core
(c) load current (d) all
8. অত্যাধুনিক সুপার কার MADA-9 কোন দেশের তৈরী?
(a) ভারত (b) যুক্তরাষ্ট্র
(c) তুরস্ক (d) আফগানিস্তান
9. The highest point on road surface is called –
(a) crown (b) camber
(c) gradient (d) beam
10. What is the firing order of a four stroke I.C engine?
(a) 1-3-4-2 (b) 1-4-3-2
(c) 1-3-2-4 (d) 1-2-4-3
11. Which of the following equation must be perfunctorily satisfied while dealing with fluid flow problems?
(a) Newton's third law
(b) Law of concentration of momentum
(c) Continuity equation
(d) Newton's Second law
12. The normal consistency of Portland cement is about –
(a) 10% (b) 15%
(c) 20% (d) 25%
13. The Laplace transform of unit step function is –
(a) s (b) s^2
(c) 1 (d) $1/s$
14. The normal way to close a SCR is by appropriate _____ current.
(a) gate (b) cathode
(c) anode (d) forward
15. Which of the following is having the lowest value of overall heat transfer coefficient?

- (a) Feed water heaters (b) Air condensers
(c) Air to low viscosity liquids (d) Steam condensers
16. Isentropic nozzle flow states about the movement of a gas or fluid through a narrow surface without an increase or decrease in-
(a) Pressure (b) Energy
(c) Displacement (d) Entropy
17. The blade friction in the impulse turbine reduces the velocity of steam by _____ while it passes over the blades.
(a) 10 – 15% (b) 15 – 20%
(c) 20 – 30% (d) 30 – 40%
18. “ব্যাবিলনের ঝুলন্ত উদ্যান” কোন দেশে অবস্থিত?
(a) ইরান (b) সিরিয়া
(c) ইরাক (d) তুরস্ক
19. Which of the following causes irreversibility?
(a) electrical resistance, magnetic hysteresis
(b) inelasticity
(c) friction, viscosity
(d) all
20. The main criterion for selection of the size for a radial distribution system is-
(a) capital loss (b) corona loss
(c) temp rise (d) voltage drop
21. In a leap year what is the probability that there are 53 Tuesday?
(a) $1/8$ (b) $2/7$
(c) $1/9$ (d) $4/11$
22. Wien bridge is used for the measurement of –
(a) R (b) C (c) L (d) f
23. ২০২৩ সালের ফিফা অনূর্ধ্ব-২০ বিশ্বকাপ চ্যাম্পিয়ন হয় কোন দল?
(a) ইতালি (b) স্পেন
(c) উরুগুয়ে (d) দক্ষিণ কোরিয়া
24. Loop gain vs phase plot is known as _____ plot/chart.
(a) Nyquist (b) Bode
(c) Nichol's (d) Inverse Nyquist
25. The main function of the construction management is –
(a) planning (b) organizing
(c) directing (d) all
26. Proximity effect is due to current flowing in the
(a) earth (b) sheath
(c) neighboring conductor (d) all
27. “Dead slow” is a _____ sign.
(a) regulatory (b) warning
(c) informatory (d) none
28. If P_m is the maximum power transferred, the loss on the system is
(a) $P_m/4$ (b) $P_m/2$
(c) $3P_m/4$ (d) $P_m^2/2$

29. The loss of head at exit of a pipe is -
 (a) $v^2/2g$ (b) $0.5v^2/2g$
 (c) $0.375v^2/2g$ (d) $0.75v^2/2g$
30. ১২ মাসে ১ বছর, ৩০ দিনে ১ মাস এই গণনারীতি কাদের দ্বারা সূচিত?
 (a) মিশরীয় (b) গ্রিক
 (c) ফরাসি (d) চীনা
31. Which of the following is the result of a reduction in operating pressure in the Air refrigeration cycle?
 (a) decrease in C.O.P (b) always decreases
 (c) increase in C.O.P (d) no change in C.O.P
32. 'প্রভাব' শব্দটি কোন সমাস?
 (a) অব্যয়ীভাব (b) তৎপুরুষ
 (c) নিত্য (d) প্রাদি
33. A person who is unaffected by emotions is called -
 (a) stoic (b) pessimist
 (c) optimist (d) henpecked
34. The moisture content in timber for framework should not exceed-
 (a) 5% (b) 10%
 (c) 15% (d) 20%
35. A single phase transformer has a maximum efficiency of 90% at full load and unity power factor. Efficiency at half load at the same power factor is -
 (a) 87.8% (b) 86.7%
 (c) 88.26% (d) 88.9%
36. A rectangular channel has cross sectional area of 50 m². If the channel section is to be most economical, calculate the depth. Take Breadth = 10m.
 (a) 10 m (b) 5 m
 (c) 8 m (d) 12 m
37. The characteristic impedance of a lossless transmission line -
 (a) \sqrt{LC} (b) $\sqrt{L/C}$
 (c) $1/\sqrt{L/C}$ (d) $\sqrt{C/L}$
38. বিশ্বের প্রথম এবং একমাত্র কম্পিউটার জাদুঘর কোথায় অবস্থিত?
 (a) কানাডা (b) জাপান
 (c) যুক্তরাজ্য (d) যুক্তরাষ্ট্র
39. Modulus of resilience is defined as Resilience ____
 (a) at ultimate stress (b) per unit volume (c)
 at proportional limit (d) at elastic limit
40. If the fault current is 2000A, the relay setting is 50% and CT ratio is 400:5, then what is the PSM value?
 (a) 25 (b) 15
 (c) 50 (d) 10
41. The compressible flow is assumed to be ____
 (a) Adiabatic only (b) Isentropic only
 (c) Polytropic (d) a+b
42. 'সোনার তরী' কবিতায় উল্লেখিত সময়
 (a) সকাল (b) বিকাল
 (c) দুপুর (d) রাত
43. The thickness of the parapet wall, on the valley side of the roadway, is usually kept as
 (a) 20 cm (b) 40 cm
 (c) 60 cm (d) 80 cm
44. 'Candid' is synonym of-

- (a) skill (b) fickle
 (c) unfair (d) frank
45. A steel bar of 5 mm is heated from 15° to 40° and it is free to expand. The bar will induce stress.
 (a) no (b) shear
 (c) tensile (d) compressive
46. 'জননী সাহসিকা' কাকে বলা হয়?
 (a) বেগম রোকেয়া (b) সুফিয়া কামাল
 (c) জাহানারা ইমাম (d) শামসুন্নাহার মাহমুদ
47. To refrain from separation in subsonic nozzles, the expansion angle must not be more than ____
 (a) 10° (b) 20°
 (c) 30° (d) 40°
48. Reflector in nuclear power plants
 (a) decreases (b) has no effect
 (c) increases (d) all
49. When a 400V, 50Hz, 6-pole induction motor is rotating at 960 rpm on no-load, its slip is -
 (a) 1% (b) 2%
 (c) 3% (d) 4%
50. 'গল্প > গল্প' কোন ধরনের ধ্বনি-পরিবর্তন?
 (a) স্বরসঙ্গতি (b) সমীভবন
 (c) অসমীকরণ (d) বিষমীভবন
51. An angle made by a survey line with the prolongation of the proceeding line, is known as..... angle.
 (a) direct (b) vertical
 (c) horizontal (d) deflection
52. Transformer connection at the sending end of a transmission line is usually -
 (a) star-star (b) delta-delta
 (c) star-delta (d) delta-star
53. The inverse Fourier transform of the function $F(\omega) = \pi\delta(\omega)/j\omega$ is
 (a) $\sin \omega t$ (b) $\cos \omega t$
 (c) $\sin (t)$ (d) $u (t)$
54. The pH value of water for public supplies is limited from
 (a) 2.5 – 6.5 (b) 6.5 – 8
 (c) 8 – 10.5 (d) 10.5 – 15
55. Hook's law holds good up to
 (a) yield point (b) elastic limit
 (c) plastic limit (d) breaking point
56. The frictional torque transmitted in a flat pivot bearing, considering uniform pressure is
 (a) $1/2 \times \mu \cdot W \cdot R$ (b) $2/3 \times \mu \cdot W \cdot R$
 (c) $3/4 \times \mu \cdot W \cdot R$ (d) $\mu \cdot W \cdot R$
57. When a shaft is subjected to a twisting moment, every cross section of the shaft will be under ____ stress.
 (a) tensile (b) compressive
 (c) shear (d) bending
58. The available energy of a system ____ as its temperature or pressure decreases and approaches that of the surroundings.

- (a) remains constant (b) increases
(c) decreases (d) none
59. বিদেশীদের মধ্যে একমাত্র কে বীর প্রতীক খেতাবে ভূষিত হন?
(a) মার্ক টালি (b) উইলিয়াম ওডারল্যান্ড
(c) ফাদার রেগান (d) আন্দ্রে মারলো
60. The power input to an induction motor is 50 kW when it is running at 4% slip. If the stator resistance and core losses are neglected, the rotor copper loss is
(a) 30 kW (b) 20 kW
(c) 2 kW (d) 4 kW
61. The thermal efficiency of diesel engines is about -
(a) 65% (b) 50%
(c) 80% (d) 70%
62. The speed regulation of a synchronous motor is always
(a) 1% (b) 0.5%
(c) 80% (d) 0
63. Human ear can detect sound intensities of the order of _____ W/m².
(a) 10⁻²⁰ (b) 10⁻¹³
(c) 10⁻⁶ (d) 10⁻³
64. In an ideal Op-Amp, the input impedance is -
(a) 0 (b) 50 (c) infinite (d) 1
65. Which one is different?
(a) Babcock and Wilcox Boiler (b) La mont boiler
(c) Cochran boiler (d) Stirling boiler
66. A fluid having no viscosity is known as _____ fluid.
(a) real (b) ideal
(c) Newtonian (d) non-Newtonian
67. The moment of inertia of a solid sphere of mass m and radius r is ---
(a) $2mr^2/3$ (b) $2mr^2/5$
(c) mr^2 (d) $mr^2/2$
68. The murder was carried out in _____
(a) cold hand (b) cold head
(c) cold blood (d) cold swing
69. In thin cylinders, the thicknesses should be _____ times of internal diameter.
(a) 1/20 (b) 1/15
(c) 1/30 (d) 1/40
70. Collimation method is used in leveling.
(a) profile (b) check
(c) differential (d) a+c
71. The C.O.P for reverse Carnot refrigerator is 2. The ratio of lowest temperature to highest temperature will be
(a) twice (b) half
(c) four times (d) three times
72. The resultant of the two forces P & Q is R. If Q is doubled, the new resultant is perpendicular to P. Then
(a) P = Q (b) Q = R
(c) Q = 2R (d) Q = 3R
73. The phase shift of the 2nd order system with transfer function $1/s^2$ is
(a) 180° (b) -180°
(c) 0° (d) 90°

74. A manometer is used to measure
(a) low (b) high
(c) moderate (d) atmospheric
75. Beecher Stows এর 'Uncle Tom's Cabin' এর বাংলা অনুবাদের নাম কি?
(a) মুখরা রমনী বশীকরণ (b) গৃহদাহ
(c) ভ্রান্তি বিলাস (d) নীল দর্পন
76. Load flow study is carried out for
(a) fault calculation (b) stability study
(c) system planning (d) frequency control
77. A dry soil sample weighing 100 g has volume of 60 ml and specific gravity 2.5. Its void ratio is
(a) 0.4 (b) 0.5
(c) 0.6 (d) 0.8
78. In which of the following cases provision of fins on a given heat transfer surface will be more effective?
(a) Fewer but thin fins
(b) Large number of thin fins.
(c) Large number of thick fins
(d) Fewer but thick fins
79. The deflection angle may have any value between
(a) 0° & 45° (b) 0° & 90°
(c) 0° & 120° (d) 0° & 180°
80. Which of following proportion of different ingredients of concrete mis confirm to the arbitrary method of mixing?
(a) 1:2:5 (b) 1:3:7
(c) 1:4:8 (d) 1:5:9

[Collected By: AH Khan]