

**Dr. B.R.Ambedkar Institute of Technology**

**Recruitment for the Post of Lab Technician (Mech.) / Instructor (Mech.W/Shop)**

**Date of Examination: 16/05/2025**

**Exam Time: 10:00 AM - 11:00 AM**

**Exam Slot: A1**

#	Question ID	Question	Answer Key
1	5212	The pressure of steam ____ while flowing through a nozzle a) Increases b) Decreases c) Remains constant d) Increase then decrease	
2	5202	The ____ is one which matter and energy crosses the boundary of the system a) Closed system b) Open system c) Isolated system d) Semi system	
3	5208	Following boiler is not fire tube boilers a) Cochran b) Babcock and Wilcox c) Simple vertical d) Lancashire	
4	5159	A circle will appear on an isometric drawing as ____ a) Ellipse b) cycloid c) circle d) parabola	
5	5232	The maximum number of jets generally employed in an impulse turbine without jet interference a) 4 b) 6 c) 8 d) 12	
6	5155	The ____ planes are so selected as to cut the surface of one of the solids in straight lines and that the other in straight lines (or) circles. a) Line b) cutting c) horizontal d) XY	
7	5175	Normalizing operation is carried out in ____ a) Furnace b) Air c) water d) oil	

8	5160	Which of the following is nonmetallic material a) Steel b) copper c) nickel d) ceramics	
9	5227	Water hammer in pipes occurs when a) Excessive leakage occurs b) Pipe is hit with hammer c) Flow of fluid through pipe is suddenly stopped by closing the valve d) Pipe burst under excessive fluid pressure	
10	5213	The ratio of the useful heat drop to the isentropic heat drop called ____ a) Condenser efficiency b) Nozzle efficiency c) Boiler efficiency d) Vacuum efficiency	
11	5231	The gross head available to a hydraulic power plant is 100 m. the utilized head in the runner of the hydraulic turbine 72m. If the hydraulic efficiency of the turbine is 90% the pipe friction head is estimated to be. a) 20m b) 18m c) 16.2m d) 1.8m	
12	5151	A square pyramid is placed on $V_p$ with a square as a base on $V_p$ , the cutting plane is parallel to $V_p$ the section will be ____ a) Triangle b) Rectangle c) Square d) pentagon	
13	5174	Crystal structure of materials is studied by ____ a) metallography techniques b) x-ray techniques c) ultra sonic method d) electron microscopy	
14	5187	The taper provided on pattern for its easy and clean withdrawal from the mould is called a) taper allowance b) draft allowance c) distortion allowance d) pattern allowance.	
15	5238	Multistage centrifugal pumps are used to obtain high a) Head b) Discharge c) Efficiency d) Pumping of viscous fluids	



16	5147	<p>What is the purpose of a sectional view in a drawing</p> <p>a) To show external shape of the object</p> <p>b) To show hidden details of the Object</p> <p>c) To show the material properties of the object</p> <p>d) To show the development of the object.</p>	
17	5140	<p>When a line is parallel to one of the reference planes, which view will show its true length?</p> <p>a) Front view</p> <p>b) top view</p> <p>c) side view</p> <p>d) upper view</p>	
18	5224	<p>The property of fluid by virtue of which it resists movement is called _____</p> <p>a) Cohesion</p> <p>b) Adhesion</p> <p>c) Viscosity</p> <p>d) Surface tension</p>	
19	5233	<p>A draft tube is used in reaction turbine is</p> <p>a) To guide water downstream without splashing.</p> <p>b) to convert residual pressure energy into kinetic energy</p> <p>c) To convert residual kinetic energy into pressure energy</p> <p>d) To streamline the flow in the tail race</p>	
20	5214	<p>The effect of friction on the nozzle ____ exit velocity of steam</p> <p>a) has no effect on</p> <p>b) decreases</p> <p>c) Increases</p> <p>d) has lot of effect</p>	
21	5185	<p>Main advantage of shell moulding is that</p> <p>a) A metallic pattern is used</p> <p>b) the moulds are stronger</p> <p>c) thin sections are easily obtained</p> <p>d) high production rate is possible</p>	
22	5218	<p>What is the term used to describe water lost through evaporation in a cooling tower</p> <p>a) Blow down</p> <p>b) Drift</p> <p>c) makeup water</p> <p>d) Evaporation lost</p>	
23	5176	<p>The main purpose of heat treatment of steels is to change the</p> <p>a) Chemical composition</p> <p>b) mechanical properties</p> <p>c) corrosion properties</p> <p>d) surface finish</p>	

24	5153	<p>The offset distance for the width front to back distance of the auxiliary view is the same distance of the _____ in the top view</p> <p>a) Width b) Height c) Length d) Breadth</p>	
25	5189	<p>Which of the following is not a casing defect?</p> <p>a) Hot wear b) Blow hole c) scrab d) decarburization</p>	
26	5145	<p>A pentagon is placed parallel to the horizontal plane which of the following projection is true?</p> <p>a) Front view line, top view pentagon b) Front view pentagon, top view line c) Front view line, top view line. d) Top view line side view line.</p>	
27	5209	<p>Which of the following is not boiler mountings</p> <p>a) Water level indicator b) Feed pump c) Fusible plug d) Pressure gauge</p>	
28	5157	<p>The lines parallel to isometric axes are called _____ lines</p> <p>a) Parallel b) auxiliary c) isometric d) oblique</p>	
29	5163	<p>Cast iron contains _____ % of carbon</p> <p>a) 1 to 2 b) 2 to 4.3 c) 0.5 to 1 d) 0.5 to 1.5</p>	
30	5184	<p>Thread rolling is restricted to the</p> <p>a) Ferrous materials b) ductile material c) brittle materials d) composite materials</p>	
31	5205	<p>A unit consists of closed vessel, economizer air pre heater, super heater water wall tubes and it produces steam as per requirement is called</p> <p>a) Boiler b) Power plant c) Steam generator d) Turbine</p>	



32	5168	<p>Steel with 0% carbon has a structure of ____</p> <p>a) Pearlite b) ferrite c) cementite d) austenite</p>	
33	5178	<p>Which of the following discontinuities can be found by the penetrant test methods?</p> <p>a) Surface crack b) subsurface crack c) an internal inclusion d) an external inclusion</p>	
34	5200	<p>A ____ is any region in space (or) device (or) combination of devices containing a quantity of matter that is being studied</p> <p>a) Thermodynamic system b) boundary c) Surroundings d) enthalpy</p>	
35	5162	<p>____ is commonly used material for machine tool</p> <p>a) Tin b) Low carbon steel c) cast iron d) wrought iron</p>	
36	5194	<p>Which one of following is a solid state joining <u>process</u></p> <p>a) Gas Tungsten arc welding b) resistant spot welding c) Friction welding d) submerged arc welding</p>	
37	5223	<p>Specific gravity of water is ____</p> <p>a) 5 b) 0.5 c) 13.6 d) 1</p>	
38	5143	<p>The planes which are perpendicular to both the reference plane (horizontal and vertical) are visible clearly only if we watch from _____</p> <p>a) front view b) top view c) side view d) isometric view</p>	
39	5239	<p>Which of the following pumps is used for Pumping of viscous fluids</p> <p>a) Centrifugal pump b) Screw pump c) Reciprocating pump d) Jet pump</p>	

40	5220	<p>Fluid statics deals with fluids</p> <p>a) At rest b) In motion c) Both d) Turbulence</p>	
41	5146	<p>If a solid is positioned with its axis parallel to the Horizontal plane (HP) and the vertical plane (VP) what can be said about the projection &amp; solid?</p> <p>a) The projections on HP &amp; VP will reveal the true shape of base b) The projections on the HP&amp; VP will show the same shape c) The projections on HP &amp; VP will be distorted d) The projections on HP &amp; VP will not be perpendicular to each other</p>	
42	5228	<p>The lower critical Reynolds numbers for pipe flow is</p> <p>a) 5000 b) 2000 c) 3000 d) 3200</p>	
43	5207	<p>A type of boiler in which water and steam flow <u>take place</u> due to density difference is called _____</p> <p>a) Fired tube boiler b) Water tube boiler c) Natural circulation boiler d) Forced circulation</p>	
44	5222	<p>Standard fluid in case liquids is</p> <p>a) Oil b) Water c) Mercury d) Honey</p>	
45	5186	<p>In sand moulding the bottom most part of the flask is called</p> <p>a) Cope b) cheek c) drag d) flask bottom</p>	
46	5154	<p>Circular shapes appear in this fashion when viewed at an angle other than 90 degrees__</p> <p>a) circular b) Elliptical c) straight d) angular</p>	
47	5221	<p>Density of a fluid is defined as ratio of _____</p> <p>a) Mass and area b) Mass and volume c) Mass and length d) Mass and velocity</p>	

48	5230	<p>which one of the following turbine is used in Under power stations?</p> <p>a) pelton turbine b) Deriaz turbine c) Tubular turbine d) Turgo-impulse turbine</p>	
49	5219	<p>The ratio of heat transfer with tins to heat transfer without tins is called</p> <p>a) Efficiency of the tines b) Capacity of the tines c) Efficiency of tines d) Coefficient of performance</p>	
50	5144	<p>A circle is placed at 20 degrees with vertical the view from the top will be _____</p> <p>a) inclined line b) circle c) ellipse d) oval</p>	
51	5173	<p>Charpy test is conducted to measure _____</p> <p>a) Hardness b) fracture stress c) fatigue resistance d) brightness</p>	
52	5169	<p>The purpose of annealing is _____</p> <p>a) To regulate the hardness b) to soften the steel c) To reduce ductility d) to decrease brightness</p>	
53	5150	<p>____ surface is formed when a sphere is cut flow plane</p> <p>a) Elipse b) Parabola c) Circle d) Hyperbola</p>	
54	5197	<p>During milling the cutter usually moves</p> <p>a) Perpendicular to axis b) parallel to axis c) Inclined to axis d) upper side of the axis</p>	
55	5148	<p>The Development of a lateral surface of a cylinder is a rectangle of a cylinder is a rectangle having one side equal to the _____ of its base circle and other equal to its length.</p> <p>a) Circumference b) Area c) diameter d) radius</p>	



56	5235	<p>Which one of the following turbines exhibits a nearly constant efficiency over a 60% to 140% design speed?</p> <p>a) Pelton turbine b) Francis turbine c) Deriaz turbine d) Kaplan turbine</p>	
57	5201	<p>In ____ approach certain quantity of matter is considered without considering the events its occurring at molecular level.</p> <p>a) Microscopic b) macroscopic c) symentic d) systematic</p>	
58	5141	<p>If the front view and top view of a line are coincident what does this indicate about the line?</p> <p>a) The line is parallel to both HP &amp; VP b) The line is perpendicular to HP&amp; VP c) the line is inclined to both HP&amp; VP d) The line is perpendicular to HP</p>	
59	5161	<p>Malleability is the ability of a material to withstand fracture under ____</p> <p>a) Tension b) compression c) shear d) strain</p>	
60	5158	<p>If Isometric projection is drawn with true measurements but not with isometric scale then the drawings are called ____</p> <p>a) Isometric projection b) isometric view c) isometric perception d) other graphic view</p>	



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**Answer Key**

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1	5212	B
2	5202	B
3	5208	B
4	5159	A
5	5232	B
6	5155	A
7	5175	B
8	5160	D
9	5227	C
10	5213	B
11	5231	A
12	5151	C
13	5174	B
14	5187	B
15	5238	A
16	5147	B
17	5140	B
18	5224	C
19	5233	C
20	5214	B
21	5185	D
22	5218	D
23	5176	B
24	5153	A
25	5189	D
26	5145	A
27	5209	B
28	5157	C
29	5163	B
30	5184	B
31	5205	C
32	5168	B
33	5178	A
34	5200	A
35	5162	C
36	5194	C
37	5223	D
38	5143	C
39	5239	B
40	5220	A
41	5146	A
42	5228	B
43	5207	C

44	5222	B
45	5186	C
46	5154	B
47	5221	B
48	5230	C
49	5219	C
50	5144	A
51	5173	D
52	5169	B
53	5150	C
54	5197	A
55	5148	A
56	5235	D
57	5201	B
58	5141	B
59	5161	B
60	5158	B