PROVISIONAL ANSWER KEY

Question Paper Code: 23/2023/OL Category Code: 490/2020 Exam: Pump Operator Medium of Question: English Date of Test 02-02-2023 Department Museum and Zoos Alphacode А Question1:-The ABCs of first aid refer to the three critical things that are A:-Air way, Breathing, Circulation B:-Ambulance, Bed, Clinic C:-Accident, Breathing, Critical D:-Air way, Bed, Climate Correct Answer:- Option-A Question2:- extinguisher should be used in order to extinguish fire due to gas and liquefied gas. A:-Water **B:-Carbon dioxide** C:-Dry powder D:-Foam Correct Answer:- Option-C Question3:- is the colour code for bins for waste food. A:-Yellow B:-Red C:-Green D:-Black Correct Answer:- Option-D Question4:-In sensitive bench drilling machine is capable of drilling holes up to diameter. A:-15 mm B:-12.5 mm C:-10 mm D:-6 mm Correct Answer:- Option-B Question5:- rivet is used in heavy structural work where the strength of rivet is very important. A:-Snap head **B:-Conical head** C:-Pan head D:-Countersunk head Correct Answer:- Option-C Question6:-Silver brazing is used for A:-Joining electrical parts requiring high electrical conductivity **B:**-Joining dissimilar metals C:-Brazing of tungsten carbide tips D:-All of the above Correct Answer:- Option-D Question7:-Which flame does not have bad effect on metals ? A:-Carburising flame **B:-Oxidising flame** C:-Neutral flame D:-None of the above Correct Answer:- Option-C Question8:- hoist is made with two sheaves on the upper block and one on the lower or working block. A:-Differential hoist B:-Spur geared hoist C:-Gib crane D:-Screw geared hoist Correct Answer:- Option-A Question9:-The portion of the broad part of the file without teeth is

A:-Tang B:-Heel C:-Edge D:-Face Correct Answer:- Option-B Question10:-Very accurate surface plate is made of A:-Glass B:-Granite C:-Steel D:-Closed grain cast iron Correct Answer:- Option-D Question11:-Which part of the spring joint caliper is fulcrum roller ? A:-Pivot **B:-Screw** C:-Spring D:-Peg Correct Answer:- Option-A Question12:-Which among the following types of chisel is used to cut keyways and grooves ? A:-Flat chisel B:-Cross cut chisel C:-Half round nose chisel D:-Diamond chisel Correct Answer:- Option-B Question13:-Which one of the following vice is used for holding small jobs ? A:-Pipe vice **B:-Machine vice** C:-Hand vice D:-Pin vice Correct Answer:- Option-C Question14:-Which one of the following is the internal parts of bench vice ? A:-Box nut B:-Fixed jaw C:-Handle D:-Hard jaws Correct Answer:- Option-A Question15:-Which micrometer does not have a frame and anvil ? A:-Outside micrometer **B:-Inside micrometer** C:-Screw thread micrometer D:-Depth micrometer Correct Answer:- Option-D Question16:-Clearance between mating parts to measured by A:-Limit gauge **B:-Feeler** gauge C:-Plug gauge D:-Ring gauge Correct Answer:- Option-B Question17:-How many valance electrons are in a semi conductor ? A:-2 B:-3 C:-4 D:-5 Correct Answer:- Option-C Question18:-Electro Motive Force (EMF) 'E' can be calculated by the formula A:-E = P.D - Voltage dropB:-E = P.D + Voltage dropC:-E = P.D + Voltage drop/2D:-E = P.D + 2 times of voltage drop Correct Answer:- Option-B

Question19:-What are the three factors essential to make a simple electric circuit ? A:-Switch, Voltage, Fuse B:-Current, Fuse, Conductor C:-EMF, Current, Resistance D:-P.D, Quantity of Electricity, Resistance Correct Answer:- Option-C Question20:-In shunt type ohmmeter a spring-loaded push button type switch is provided to A:-To avoid draining of the battery during storage B:-Switch ON and Switch Off the meter C:-To adjust zero position of the pointer D:-To maintain the accuracy of the measurement reading Correct Answer:- Option-A Question 21:-6 Ω resistor of 2 nos are connected in parallel across 12 V supply, calculate the branch circuit current. A:-1 A B:-2 A C:-3 A D:-4 A Correct Answer:- Option-D Question22:-What is the value of the resistor; if the colour code is Orange, Orange, Red, Silver ? A:-330 ± 5% B:-3300 ± 10% C:-33000 ± 2% D:-330000 ± 10% Correct Answer:- Option-B Question23:-The process, in which the tip of the soldering iron is coated with the solder is known as A:-Surface soldering B:-Applying the solder C:-Wetting of soldering D:-Tinning of soldering iron Correct Answer:- Option-D Question24:-What is the purpose of system earthing ? A:-To maintain the ground at zero reference potential B:-To maintain the safety of appliance under over voltage C:-To maintain and protect the motor when short circuit D:-To maintain the safety of human from electric shock Correct Answer:- Option-A Question25:-Which device is used for short circuit protection in the thermal magnetic MCB ? A:-Arc chamber **B:-Trip lever** C:-Switching dolly D:-Bimetallic strip Correct Answer:- Option-D Question26:-What is the capacitance of a capacitor that requires 0.8 coulomb to charge it to 32 V ? A:-0.25 Farad B:-0.002 Farad C:-0.025 Farad D:-0.0025 Farad Correct Answer:- Option-C Question27:-Why the rotor current flows only in rotor bars, not in rotor cores ? A:-Due to low resistance of core B:-Due to low resistance of rotor bar C:-Due to high resistance of core D:-Due to high resistance of rotor bar Correct Answer:- Option-B Question28:-How the spark at commutator can be reduced in a DC generator ? A:-By shifting the brushes to any position B:-By shifting the brushes from MNA to GNA C:-By shifting the brushes from GNA to MNA D:-By shifting the brushes to horizontal position

Correct Answer:- Option-C Question29:-The width of the depletion layer of a junction A:-Decreases with light doping B:-Increases with heavy doping C:-Is independent of applied voltage D:-Is increased under reverse bias Correct Answer:- Option-D Question30:-''While testing the PN junctions of a transistor using an ohmmeter, middle range such as R 100Ω is preferred'' Which of the following statement is/are the correct reason? i. Ohmmeters in low range can produce excessive current ii. Ohmmeters in high range can produce excessive voltage iii. Ohmmeters have low accuracies at low and very high ranges A:-Only ii and iii B:-Only i and ii C:-All of the above D:-Only i and iii Correct Answer:- Option-B Question31:-Which of the following is most preferred type of biasing ? A:-Voltage divider bias **B:-Emitter bias** C:-Base bias D:-Both 1 and 3 Correct Answer:- Option-A Question32:-Select correct applications of SCR from the following. i. Power control ii. Logic and digital circuit iii. Speed control of motors A:-Only i and ii B:-All of the above C:-Only ii and iii D:-Only i and iii Correct Answer:- Option-B Question33:-Which of the following statement is/are correct about "use of UJT" ? i. Used in timing circuits only ii. Used in oscillators circuits only iii. Used in bistable circuits only A:-Only ii and iii B:-Only i and ii C:-All of the above D:-Only i and iii Correct Answer:- Option-C Question34:-What is the unit of quantity of electricity ? A:-Coulomb **B:-Volt Ampere C:-Ampere Hour** D:-Watts Correct Answer:- Option-A Question35:-What is the name of charge that gives to new battery to put into service for the first time ? A:-Trickle charge **B:-Freshening charge** C:-Initial charge D:-Boost charge Correct Answer:- Option-B Question36:-Which colour indicates fully charged condition of a lead acid battery by testing high rate discharge tester ? A:-Red **B:-Yellow** C:-Blue D:-Green Correct Answer:- Option-D

Ouestion37:-Which of the following statement is correct about hydraulic brake system ? i. Pascal's law is applied in hydraulic brake system ii. Boyle's law is applied in hydraulic brake system iii. liquid pressure is transmitted equally in all directions A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question38:-Which of the following statement is correct ? i. Actuator converts mechanical energy into hydraulic energy ii. Actuator converts hydraulic energy into mechanical energy iii. Actuator converts hydraulic power into linear force or motion A:-Only i and ii B:-Only ii and iii C:-Only i and iii D:-All of the above (i, ii and iii) Correct Answer:- Option-B Question39:-Unit of viscosity is i. kgf-sec/ m^{2} ii. dyne-sec/`cm^(2)` iii. Ns/`m^(2)` A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question40:-Which of the following statement is correct about a 3/2 DC valve ? i. Three ports and two switching positions ii. Three switching positions and two ports iii. 3/2 DC valve can be used to control single acting hydraulic cylinders A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question41:-In single acting hydraulic cylinder, the piston and rod assembly moves in the opposite direction by i. a spring force ii. gravity iii. external force A:-Only i and ii B:-Only ii and iii C:-Only i and iii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question42:-Which of the following statement is correct about pneumatic system ? i. Compressor converts mechanical energy into pneumatic energy ii. Brake chamber converts pneumatic energy into mechanical energy iii. Compressor converts hydraulic energy into mechanical energy A:-Only i and ii B:-Only ii and iii C:-None of these D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question43:-Which of the following statement is correct about Boyle's law ? i. Boyle's law is the relation between pressure and volume of a gas ii. `P (1)` `V (1)` = `P (2)````V (2) T, ` constant iii. Boyle's law is the relation between compression and expansion of gases A:-Only i and ii B:-Only ii and iii C:-None of these D:-All of the above (i, ii and iii)

Correct Answer:- Option-D Question44:-Pneumatic actuators are output devices for conversion of energy to produce i. Linear motion ii. Rotary motion iii. Apply force A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question45:-In pneumatic system FRL used for i. To remove fine dirt particles ii. To regulate pressure iii. To aid lubrication A:-Only i and ii B:-Only ii and iii C:-Only i and iii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question46:-The function of Non-return valves is i. Control the direction of fluid flow ii. Allow the fluid flow in only one direction iii. Block the flow in the other direction A:-Only i and ii B:-Only ii and iii C:-Only i and iii D:-All of the above (i, ii and iii) Correct Answer:- Option-B Question47:-Unit of torque is i. kN ii. Nm iii. Kw iv. kN-m A:-Only i B:-Only ii C:-Only iii D:-All of the above (i, ii, iii and iv) Correct Answer:- Option-B Question48:-Compression ratio of engine, r = i. `pi/4d^(2)S` ii.`(V_(s)+V_(c))/(V_(c))` iii.`pi/4d^(2)LN` iv. (2piNT)/(60) A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-B Question49:-Which of the following is correct about in two stroke engines ? The whole cycle is completed in i. 180° ii. 360° iii. 540° iv. 720° A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-B Question50:-Four stroke petrol engines are also called as i. Otto cycle engine ii. Constant volume cycle engine iii. Naturally aspirated engine

A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question51:-In diesel cycle the combustion take place at i. Constant pressure ii. Constant volume iii. Constant pressure and volume A:-Only i B:-Only ii C:-Only iii D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question52:-In Otto cycle the combustion take place at i. Constant volume ii. Constant pressure iii. Constant pressure and volume A:-Only i B:-Only ii C:-Only iii D:-All of the above (i, ii and iii) Correct Answer:- Option-B Question53:-The basic frame work of the engine is formed by i. Cylinder head ii. Cylinder block iii. Crank case iv. Oil sump A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-B Question54:-The material used for cylinder block is i. Grey cast iron ii. Steel iii. Aluminium alloy A:-Only i and iii B:-Only ii and iii C:-None of these D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question55:-The material used for cylinder head is i. Cast iron ii. Aluminium alloy iii. Steel A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-C Question56:-The cylinder bores of aluminium alloy cylinder blocks are usually plated with i. Molybdenum ii. Brass iii. Chromium A:-Only i B:-Only ii C:-Only iii D:-All of the above (i, ii and iii) Correct Answer:- Option-C

Question57:-The minimum clearance between piston and valves should be i. 1.5 mm ii. 2 mm iii. 2.5 mm iv. 3 mm A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-C Question58:-The main reason for the piston scuffing is i. Insufficient lubrication ii. Insufficient cooling iii. Detonation A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question59:-The crown side of the piston smaller in diameter than the skirt end is called i. Taper piston ii. Wire wound piston iii. Offset piston iv. Cam ground piston A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-A Question60:-Compression rings are generally made of i. Low carbon steel ii. Chromium iii. Aluminium alloy iv. Fine grained alloy cast iron A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-D Question61:-In six-cylinder engine the angle between crank throw is i. 90° ii. 120° iii. 180° iv. 360° A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-B Question62:-Firing order of an six cylinder engine is i. 1-5-3-6-2-4 ii. 1-4-2-6-3-5 iii. 1-4-3-2-6-5 A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-C Question63:-The boiling point of the coolant in cooling system is raised by i. Thermostat valve ii. Coolant pump iii. Pressure cap iv. Radiator

A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-C Question64:-Radiator pressure cap contains i. Vacuum valve ii. Thermostat valve iii. Pressure valve A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question65:-The operating temperature of thermostat valve is i. 70°C ii. 80°C iii. 100°C A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-B Question66:-What is the necessity of fan in cooling system ? i. When the vehicle is moving under heavy load and at slow speed ii. When driving up hill iii. When the vehicle is stationary A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-D Question67:-The fan shroud is attached to i. Behind the radiator ii. In front of the radiator iii. Behind and in front of the radiator iv. Side of the radiator A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-A Question68:-The friction that occurs between the layers of oil film is called i. Viscous friction ii. Solid friction iii. Boundary friction A:-Only i B:-Only ii C:-Only iii D:-All of the above (i, ii and iii) Correct Answer:- Option-A Question69:-Commonly used lubrication system in automobile is i. Petroil system ii. Pressure system iii. Dry sump system A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-C

Question70:-In Petroil system, the percentage of lubricating oil mixed with petrol is i. 2% ii. 3% iii. 5% A:-Only i and iii B:-Only ii and iii C:-Only i and ii D:-All of the above (i, ii and iii) Correct Answer:- Option-C Question71:-Which types of oil pumps are commonly used in automobile ? i. Gear pump ii. Rotor pump iii. Plunger pump A:-Only i and iii B:-Only i and ii C:-Only ii and iii D:-All of the above (i, ii, and iii) Correct Answer:- Option-B Question72:-Usually oil is changed after i. 10000 km ii. 11000 km iii. 12000 km iv. 13000 km A:-Only i B:-Only ii C:-Only iii D:-Only iv Correct Answer:- Option-A Question73:-_____ is an important component in selective catalytic reduction. A:-EGR valve **B:-Diesel particulate filter** C:-Diesel exhaust fluid D:-Canister Correct Answer:- Option-C Question74:-In a three-way catalytic converter _____ uses as catalyst. A:-Cast iron **B:-Aluminium alloy** C:-Gold D:-Platinum Correct Answer:- Option-D Question75:-How does a turbocharger get drive ? A:-From exhaust gas B:-By belt C:-By gear D:-From inlet gas Correct Answer:- Option-A Question76:-Which type of muffler produces anti noise without restricting exhaust flow ? A:-Straight through type **B:-Electronic type** C:-Reverse flow type D:-Baffle type Correct Answer:- Option-B Question77:-Which electronic device controls the engine system ? A:-Regulator **B:-Fuse** C:-ECM D:-Switch Correct Answer:- Option-C Question78:-How the quantity of fuel delivery vary in a FIP ? A:-By delivery valve B:-By feed pump

C:-By filter D:-By rotating plunge Correct Answer:- Option-D Question79:-How can adjust an injector pressure ? A:-By adjusting cap nut B:-By adjusting nozzle body C:-By adjusting nozzle valve D:-By adjusting screw Correct Answer:- Option-D Question80:-Which fuel related with cetane number? A:-Diesel **B:-Petrol** C:-LPG D:-CNG Correct Answer:- Option-A Question81:-What is the purpose of baffles in the fuel tank ? A:-To make fuel tank rigid B:-To minimize the slushing of fuel in the tank C:-To make chambers in fuel tank D:-To make fuel tank more attractive Correct Answer:- Option-B Question82:-The process of removing air in fuel system is called A:-combustion **B:-compressing** C:-bleeding D:-scavenging Correct Answer:- Option-C Question83:-In , in the event of failure of one brake line (front or rear), the other continues to work and stops the vehicle. A:-tandem master cylinder B:-single barrel master cylinder C:-centre feed master cylinder D:-tank type master cylinder Correct Answer:- Option-A **Ouestion84:-ABS means** A:-Automatic Brake System **B:-Antilock Brake System** C:-Advanced Brake System D:-Anticlockwise Brake System Correct Answer:- Option-B Question85:-Which type of gears are used in Sliding mesh gearbox ? A:-Spur gears **B:-Helical gears** C:-Spiral bevel gears D:-Worm gears Correct Answer:- Option-A Question86:-In constant mesh gearbox the gear is selected through A:-spur gears B:-dog clutch C:-synchroniser unit D:-worm gears Correct Answer:- Option-B Question87:-Which type of axle have heavy load carrying capacity ? A:-Semi-floating axle B:-Three quarter floating axle C:-Fully floating axle D:-Front axle Correct Answer:- Option-C Question88:-Which is the driver gear in a differential ?

A:-Sun gears **B:-Planetary gears** C:-Crown wheel D:-Pinion Correct Answer:- Option-D Question89:-What is Camber angle ? A:-Angle between the vertical line from the central point of the tyre and the central line of the tyre B:-Angle formed by the forward or backward tilt of the steering axis from vertical, when viewed from the side of the wheel C:-Angle between the centre line of the kingpin and the vertical line D:-Angle in the vertical plane between the kingpin axis and the wheel centre line Correct Answer:- Option-A Question90:-In a conventional suspension system (leaf spring type) ______ accommodate the change in the spring length. A:-'U' bolt **B:-Shackle** C:-Rear axle D:-Front axle Correct Answer:- Option-B Question91:-_____ is simple in construction and light in weight. A:-Coil spring suspension **B:-Torsion bar suspension** C:-MCPHERSON strut type suspension D:-Rear indepentend suspension Correct Answer:- Option-C Question92:-_____ is widely used in a vechicles nowadays. A:-Piston type shock absorber B:-Vane type shock absorber C:-Mechanical shock absorber D:-Telescopic shock absorber Correct Answer:- Option-D Question93:- convert the AC produced by the alternator to DC. A:-The rotor assembly **B:-Stator assembly** C:-Diodes D:-Current regulator Correct Answer:- Option-C Question94:- is a most commonly used starting system drive mechanism in light vechiles. A:-Axial drive **B:-Sliding armature drive** C:-Over-running clutch drive D:-Bendix drive Correct Answer:- Option-D Question95:-What is the use of condenser in air conditioner ? A:-Cool the refrigerant, ensuring it condenses into a liquid B:-Compress the refrigerant C:-Filter the refrigerant D:-Evaporate the refrigerant Correct Answer:- Option-A Question96:-In MPFI system _____ is used for supplying fuel in correct ratio to cylinders. A:-carburetor **B:-injector** C:-distributor D:-spark plug Correct Answer:- Option-B Question97:-_____ is used to measure the free oxygen in the exhaust gas. A:-MAP sensor B:-MAF sensor C:-Lambda sensor D:-Vehicle speed sensor

Correct Answer:- Option-C Question98:-In an ignition system _____ prevents arcs at CB point. A:-contact breaker **B:-ignition switch** C:-distributor D:-condenser Correct Answer:- Option-D Question99:-_____ opens and closes the primary circuit of the ignition coil. A:-Distributor **B:-Ignition switch** C:-Spark plug D:-Condenser Correct Answer:- Option-A Question100:-Which type of winding is generally used in automobile starting motors ? A:-Shunt **B:-Series** C:-Compound D:-Parallel Correct Answer:- Option-B