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NSQF LEVEL-2

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, MALLESWARAM,
BANGALORE – 560 003**

NSQF LEVEL-2 EXAMINATION, MARCH/APRIL, 2018

MODEL ANSWERS

Date : 04. 04. 2018]

CODE NO. : **88-EK**

Subject : Automobile

(English Version)

(Regular Fresh & Regular Repeater)

[Max. Marks : 60

| Qn. Nos. | Value Points | | Total |
|-----------------|--|--|--------------|
| I. | <i>Four alternatives are given for each of the following questions / incomplete statements. Choose the correct alternative and write the complete answer along with its question number and alphabet : $10 \times 1 = 10$</i> | | |
| 1. | Channel section is made of Ans : C — steel | | 1 |
| 2. | The resistance of the lubricating oil to flow is called Ans : B — viscosity | | 1 |
| 3. | One horse-power is equal to Ans : D — 4500 kg.m | | 1 |
| 4. | In automobiles which of the following types of universal joint are 'NOT' used ? Ans : A — non-rubber coupling | | 1 |

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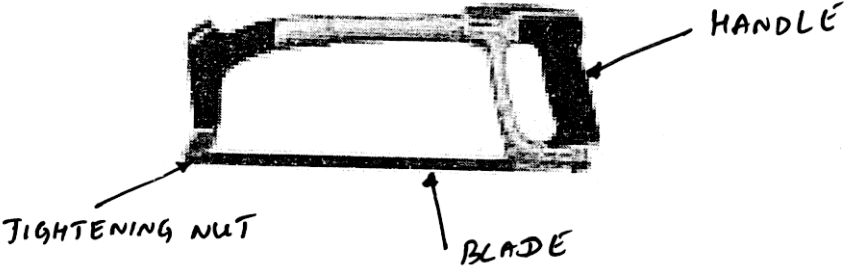
| Qn. Nos. | Value Points | | Total |
|----------|--|--|-------|
| 5. | The component that supports the weight of the vehicle is Ans : C — spring | | 1 |
| 6. | Tendency of a vehicle to dive in its front on application of brake is called Ans : B — dipping | | 1 |
| 7. | The unit of resistance is Ans : A — ohm | | 1 |
| 8. | The hand tool used for cutting, shearing and chipping of metal is Ans : D — chisels | | 1 |
| 9. | The instrument used to measure the specific gravity is Ans : A — hydrometer | | 1 |
| 10. | The tool used to tighten and loosen bolt and nut is Ans : C — spanner. | | 1 |
| II. | Fill in the blanks with suitable answer : $4 \times 1 = 4$ | | |
| 11. | The minimum temperature at which the oil will pour is called its Ans : Pour point | | 1 |

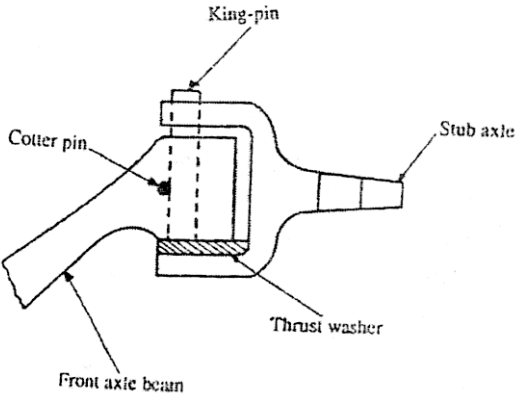
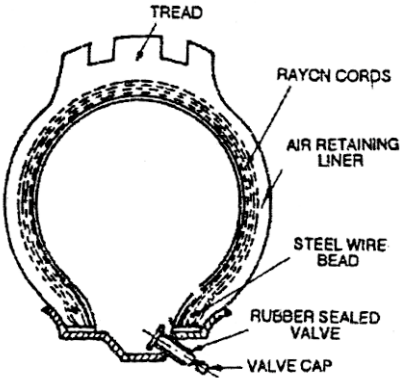
| Gn. Nos. | Value Points | | Total | | | | | | | | | | | | | | | | |
|-----------------|---|--------------------------------|-----------------|---------|--------------------|----------------|----------------|-------------|----------------------|--------------|---------------------------|--|------------------------|--|---------------------|--|--|--|------------------|
| 12. | Drill bits are used to create holes. Ans : Cylindrical | | 1 | | | | | | | | | | | | | | | | |
| 13. | Tappet wrench has jaws at fixed separation. Ans : two | | 1 | | | | | | | | | | | | | | | | |
| 14. | The first company to introduce 'ABS' system in cars in the year 1978 is Ans : Mercedes - Benz. | | 1 | | | | | | | | | | | | | | | | |
| III. | Automobile service tools are given in Column-A and their uses are given in Column-B . Match them : $4 \times 1 = 4$ | | | | | | | | | | | | | | | | | | |
| 15. | Match the following : <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Column-A</td> <td style="text-align: center;">Column-B</td> </tr> <tr> <td>i) Vice</td> <td>a) for lubrication</td> </tr> <tr> <td>ii) Grease gun</td> <td>b) cuts metals</td> </tr> <tr> <td>iii) Mallet</td> <td>c) cuts sheet metals</td> </tr> <tr> <td>iv) Calipers</td> <td>d) to hold the work piece</td> </tr> <tr> <td></td> <td>e) removes sharp edges</td> </tr> <tr> <td></td> <td>f) for softer blows</td> </tr> <tr> <td></td> <td>g) measures the distance between two opposite sides.</td> </tr> </table> Ans : i) d) — to hold the work piece. ii) a) — for lubrication. iii) f) — for softer blows. iv) g) — measures the distance between two opposite sides. | Column-A | Column-B | i) Vice | a) for lubrication | ii) Grease gun | b) cuts metals | iii) Mallet | c) cuts sheet metals | iv) Calipers | d) to hold the work piece | | e) removes sharp edges | | f) for softer blows | | g) measures the distance between two opposite sides. | | 1 1 1 1 |
| Column-A | Column-B | | | | | | | | | | | | | | | | | | |
| i) Vice | a) for lubrication | | | | | | | | | | | | | | | | | | |
| ii) Grease gun | b) cuts metals | | | | | | | | | | | | | | | | | | |
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| | f) for softer blows | | | | | | | | | | | | | | | | | | |
| | g) measures the distance between two opposite sides. | | | | | | | | | | | | | | | | | | |
| IV. | Answer the following questions : $6 \times 1 = 6$ | | | | | | | | | | | | | | | | | | |
| 16. | Name the types of automobile engines based on the cycles of operation. Ans : i) Two-stroke engine ii) Four-stroke engine. | $\frac{1}{2}$ $\frac{1}{2}$ | 1 | | | | | | | | | | | | | | | | |

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|-----------|---|-------------------------------------|-------|
| 21. | <p>In night vision assist technology thermal imaging cameras are used. Why ?</p> <p>Ans : To spot animals, pedestrians and other vehicles that normally would not have seen.</p> | | 1 |
| V. | Answer the following questions : 6 × 2 = 12 | | |
| 22. | <p>List the functions of front axle.</p> <p>Ans :</p> <p>i) it carries the weight of the front of the vehicle.</p> <p>ii) it carries stub axle king pin steering arm by which the vehicle can be steered.</p> <p>iii) it works as cushion through its spring for a comfortable ride.</p> <p>iv) it controls the ride through shock absorber fitted in it.</p> <p>v) it carries the break system with which moving vehicle can be stopped.</p> <p>vi) in case of four-wheel drive transmits power to road wheels.</p> <p>vii) it carries hubs and wheels. (any four)</p> | <p>½</p> <p>½</p> <p>½</p> <p>½</p> | 2 |
| OR | | | |
| | <p>List the types of stub axle.</p> <p>Ans :</p> <p>i) Elliot type.</p> <p>ii) Reversed Elliot type.</p> <p>iii) Lamoine type.</p> <p>iv) Reversed Lamoine type.</p> | <p>½</p> <p>½</p> <p>½</p> <p>½</p> | 2 |
| 23. | <p>Explain yawing.</p> <p>Ans : A phenomenon in which the highly cambered lead springs exhibit movement about the vertical axis is known as yawing.</p> | | 2 |
| OR | | | |

| Qn. Nos. | Value Points | | Total |
|----------|---|--------------------------|-------|
| | Explain bottoming. Ans : When a vehicle is overloaded it causes greater deflection in the springs than their normal specified values. The result is lowering down of the whole vehicle. This is called bottoming. | | 2 |
| 24. | How to prepare your car while replacing oil ? Ans : i) Car should be on a level surface ii) Parking brake on iii) Engine off iv) Leaving the oil to cool for few minutes. v) Use jack stand for support. vi) Put something underneath the engine to prevent spilling oil on to the ground. (any four) | 1/2 1/2 1/2 1/2 | 2 |
| 25. | Mention the different steps used in changing the fuel filter. Ans : i) Purchase the filter ii) Locate the filter iii) Remove fuel pressure iv) Unscrew each hose clamp v) Push the clamp up the hose vi) Remove the old filter and replace with new filter vii) Run the engine & check for leaks. | 1/2 1/2 1/2 1/2 | 2 |
| 26. | List the important aspects of customer care. Ans : i) Know your product ii) Body language/communication iii) Anticipate guest needs. (any two) | 1 1 | 2 |

| Gn. Nos. | Value Points | | Total |
|-----------|--|---|-------|
| 27. | How does the roll over prevention help to control vehicle ? Ans : Roll over prevention system will apply the brakes and modulate the throttle as needed to help to maintain and control of the vehicle. | | 2 |
| VI. | Answer the following questions : 4 × 3 = 12 | | |
| 28. | List the components of suspension system. Ans : i) Control arm ii) Control arm bushing iii) Strut rod iv) Ball joints v) Struts or shock absorbers vi) Spring vii) Stabilizer bar. (any six) | $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ | 3 |
| OR | | | |
| | List the advantages of tubeless tyre. Ans : i) Lighter and run cooler than tube tyre. ii) Retain air for long period even after punctured. iii) Any hole in the tubeless tyre can be repaired by rubber plugging. iv) Ordinary punctures can be repaired with removing the tyre from the wheel. v) It can be retreated same as the tube tyre. | 1 1 1 | 3 |

| Qn. Nos. | Value Points | | Total |
|----------|---|--|-------|
| 29. | <p>Draw the diagram of hand hacksaw and label the parts.</p> <p>Ans :</p>  <p style="text-align: center;">Diagram of Hand hacksaw.</p> | <p>Sketch</p> <p>2</p> <p>Parts</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>= 1</p> | 3 |
| 30. | <p>What are the precautions to be taken during manually washing a vehicle.</p> <p>Ans :</p> <p>i) Wear old clothes</p> <p>ii) Soap dries fast, wash one side at a time to keep the soap from drying on your car's paint.</p> <p>iii) Wet and wring out clothes before dry. It absorb water better.</p> <p>iv) Do not use detergent, dish soap. Use car wash soap only.</p> | <p>1</p> <p>1</p> <p>1</p> | 3 |
| 31. | <p>Write short notes on "Know Your Product" with respect to customer sales care.</p> <p>Ans : Know what products/service you are offering. Be an information expert. Don't say, I don't know. But it should always followed up by "but let me find out" whatever the situation make sure that you don't leave your customer with an unanswered question.</p> | | 3 |

| Qn. Nos. | Value Points | | Total |
|-----------|--|---|-------|
| VII. | Answer the following questions : 3 × 4 = 12 | | |
| 32. | <p>Draw the diagram of Reverse Elliot type stub axle and label the parts.</p> <p>Ans :</p> <div style="text-align: center;">  <p>Diagram of reverse Elliot type stub axle.</p> </div> | <p>Sketch 3 Parts $\frac{1}{2} +$ $\frac{1}{2} = 1$</p> | 4 |
| OR | | | |
| | <p>Draw the diagram of a tubeless tyre and label the parts.</p> <p>Ans :</p> <div style="text-align: center;">  <p>Diagram of tubeless tyre.</p> </div> | <p>Sketch 3 Parts $\frac{1}{2} +$ $\frac{1}{2} = 1$</p> | 4 |

| Qn. Nos. | Value Points | | Total |
|----------|--|---|-------|
| 33. | <p>List the steps that you follow for changing the coolant.</p> <p>Ans :</p> <p>i) Purchase the coolant.</p> <p>ii) Prepare the vehicle engine off for few hours so that engine is cool.</p> <p>iii) Keep a pan below radiator.</p> <p>iv) Open the radiator cap and see level of coolant.</p> <p>v) Open the drain plug.</p> <p>vi) Empty the coolant.</p> <p>vii) Put back the drain plug.</p> <p>viii) Fill the coolant.</p> <p>ix) Turn engine on for several minutes to get any air out of the system.</p> | <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> | 4 |
| | OR | | |
| | <p>Explain automatic car washing unit.</p> <p>Ans : The service stations use automatic washing unit in which procedure of washing takes place. In an automatic washing cleaning as well as shampoo washing take place. Water is sprayed on the car with the help of mist sprayer. Brushes are used for cleaning the body of a vehicle.</p> | | 4 |

