

PAPER CODE	EXAMINER	DEPARTMENT	TEL
CAN302		Department of Communication and Networks	

2nd SEMESTER 2020/21 FINAL EXAMINATIONS**BACHELOR DEGREE – Year 4****TECHNOLOGIES FOR E-COMMERCE****TIME ALLOWED: TWO HOURS**

READ THE FOLLOWING CAREFULLY:

1. This is a blended exam. The students outside of China will do it online. For Online students, you have to make sure your submission is successful.
2. There are 4 questions in total and worth 100 marks. The numbers in brackets at the end of the question indicate the marks for that question.
3. Answer ALL questions in English.
4. Only answers in the Examination Answer Booklet are marked and counted.

THIS PAPER MUST NOT BE REMOVED FROM THE EXAMINATION ROOM

Question A – E-commerce Foundation and Social Issues (25)

A1. Answer the following basic questions:

1. What is e-commerce? Describe the technology that has made it possible. [5 marks]
2. Give three basic types of e-commerce based on the transaction directions or based on media used. [5 marks]
3. List and discuss three key issues a company faces when conducting international e-commerce. [5 marks]
4. Discuss the statement that “E-commerce is mainly about technology”. What is your opinion about this statement considering the eight unique features of the e-commerce technology and explain what else is needed apart from the technology to make a successful e-commerce solution? [5 marks]
5. Discuss the opinion that “Privacy is the moral right of individuals to be left alone in a society”. Is it correct? How to ensure users' privacy? [5 marks]

Question B – Development Technology (25)

B2. The Appendix is a simple version of “M-Dev-Store” code named “cart.php”. You should see it in your lab practice. It is a working version of the code and no any grammatical mistakes. Read it carefully and answer the following questions:

1. Draw a sketch that shows the “Look & Feel” of the webpage generated by the code “cart.php”. You only need to show the major visual components and their relative positions rather than a precise screenshot. You can assume a number of items in the customer’s shopping cart. [5 marks]
2. Write the possible value of variable `$con`, which first appears at line 11 and then line 36. [5 marks]
3. Write the minimum columns of the data structure of the two tables “cart” and “products”, which you can get from the code. [5 marks]
4. Descript the full process of “cart.php” code with a flowchart. [10 marks]

Question C – Marketing Technology (25)

C3. Marketing technology is important for the success of e-commerce. Answer the following questions.

1. Provide two other important technologies for e-commerce marketing apart from SEO. [2 marks]
2. Explain what is SEO? How does it work? [5 marks]
3. Give the 5 most important factors a search engine algorithm will take to rank a website? [3 marks]
4. How can you improve your website ranking? [5 marks]
5. You are invited to design “A hybrid recommender system” consists of three basic recommendation methods. List the three basic recommendation algorithms you may use in this system and explain each of them. [10 marks]

Question D – Security Technology (25)

D4. You are designing an e-commerce security solution in two typical scenarios:

- A. Users' payment methods like credit card numbers need to be stored securely in a public database. You want the credit card numbers to be encrypted and stored so that only you can decrypt them.
- B. Whenever a user makes a payment using a credit card. You want the user to be authenticated by sending a 4 digits code to the user but you don't want anyone else to know the 4 digits code.

Answer the following questions:

1. In the above two scenarios, which encryption between symmetric key encryption and public key encryption that you are going to use in which scenario and why? [10 marks]
2. How could you identify the legal user if you received the 4 digits code from two different users? Using a diagram to show your authentication method. [15 marks]

Appendix “cart.php”

```

1 <?php
2     $active='Cart';
3     include("includes/header.php");
4 >?
5 <div id="content"><!-- #content Begin -->
6 <h1>Shopping Cart</h1>
7
8 <?php
9 $ip_add = getRealIpUser();
10 $select_cart = "select * from cart where ip_add='$ip_add'";
11 $run_cart = mysqli_query($con, $select_cart);
12 $count = mysqli_num_rows($run_cart);
13 >?
14
15 <p class="text-muted">You currently have <?php echo $count; ?> item(s) in your cart</p>
16 <div class="table-responsive"><!-- table-responsive Begin -->
17 <form action="cart.php" method="post" enctype="multipart/form-data"><!-- form Begin -->
18 <table class="table"><!-- table Begin -->
19 <tr><!-- tr Begin -->
20 <th colspan="2">Product</th>
21 <th>Quantity</th>
22 <th>Unit Price</th>
23 <th>Size</th>
24 <th colspan="1">Delete</th>
25 <th colspan="2">Sub-Total</th>
26 </tr><!-- tr Finish -->
27 <tbody><!-- tbody Begin -->
28
29 <?php
30 $total = 0;
31 while($row_cart = mysqli_fetch_array($run_cart)){
32     $pro_id = $row_cart['p_id'];
33     $pro_size = $row_cart['size'];
34     $pro_qty = $row_cart['qty'];
35     $get_products = "select * from products where product_id='$pro_id'";
36     $run_products = mysqli_query($con, $get_products);
37
38 while($row_products = mysqli_fetch_array($run_products)){
39     $product_title = $row_products['product_title'];
40     $product_img1 = $row_products['product_img1'];
41     $only_price = $row_products['product_price'];
42     $sub_total = $row_products['product_price']*$pro_qty;
43     $total += $sub_total;
44 >?>
45
46 <tr><!-- tr Begin -->
47 <td></td>
48 <td><a href="details.php?pro_id=<?php echo $pro_id; ?>"><?php echo $product_title; ?> </a></td>
49 <td><?php echo $pro_qty; ?></td>
50 <td><?php echo $only_price; ?></td>
51 <td><?php echo $pro_size; ?></td>
52 <td><input type="checkbox" name="remove[]" value="<?php echo $pro_id; ?>"></td>
53 <td><?php echo $sub_total; ?></td>
54 </tr><!-- tr Finish -->
55 <?php } } ?>
56 </tbody><!-- tbody Finish -->
57 <tfoot><!-- tfoot Begin -->
58 <tr><!-- tr Begin -->
59 <th colspan="5">Total</th>
60 <th colspan="2"><?php echo $total; ?></th>
61 </tr><!-- tr Finish -->
62 </tfoot><!-- tfoot Finish -->
63 </table><!-- table Finish -->
64 </div><!-- table-responsive Finish -->
65

```

```
66 <div class="box-footer"><!-- box-footer Begin -->
67     <div class="pull-left">
68         <a href="index.php" class="btn btn-default"><i class="fa fa-chevron-left"></i> Continue Shopping</a>
69     </div><!-- pull-left Finish -->
70 <div class="pull-right"><!-- pull-right Begin -->
71     <button type="submit" name="update" value="Update Cart" class="btn btn-default">
72         <i class="fa fa-refresh"></i> Update Cart</button>
73     <a href="checkout.php" class="btn btn-primary">Proceed Checkout<i class="fa fa-chevron-right"></i></a>
74 </div><!-- pull-right Finish -->
75 </div><!-- box-footer Finish -->
76 </form><!-- form Finish -->
77 </div><!-- #content Begin -->
78
79 <?php
80 function update_cart(){
81     global $con;
82     if(isset($_POST['update'])){
83         foreach($_POST['remove'] as $remove_id){
84             $delete_product = "delete from cart where p_id='$remove_id'";
85             $run_delete = mysqli_query($con,$delete_product);
86             if($run_delete){
87                 echo "<script>window.open('cart.php','_self')</script>";
88             }
89         }
90     }
91 }
92 echo @$up_cart = update_cart();
93 include("includes/footer.php");
94 ?>
95
96 <script src="js/jquery-331.min.js"></script>
97 <script src="js/bootstrap-337.min.js"></script>
98 </body>
99 </html>
```

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