1. Marlon is creating a web page. It's a simple page, which has a list of his current projects, a short bio about himself, and some GIF images of some of those same projects that he uploaded to the server himself. What type of web page is this?

- ⦿ static web page

- ○ web service

- ○ web app

- ○ dynamic web page

  ⊘ **Correct**
  Correct! The above description has only static elements that will be stored on the web server as a full page.

2. Which of these examples is a **web application**?

- ○ a website conducting a survey

- ⦿ an online shopping platform

- ○ a blog

- ○ online poker

  ⊗ **Incorrect**
  Incorrect. Online shopping platforms are definitely dynamic, since they have to generate content (for example, showing your Shopping Cart with the items that you put in there), but they are not web applications.

3. Which of these formats can be used to express and structure content to be sent over the

internet? Choose the **three correct** answers:

☑ HTML

✓ **Correct**
Correct! HyperText Markup Language is used to structure content for web pages.

☑ JSON

✓ **Correct**
Correct! JavaScript Object Notation is popular because it is lightweight and can easily be converted into Java objects.

☐ XML

☐ CSS

You didn't select all the correct answers

4. What are the essential parts of an HTTP request? Choose the **three correct** answers. 1 / 1 poi

☑ a blank space

✓ **Correct**
Correct! The blank space is required in an HTTP request

☐ a message body

☑ headers

✓ **Correct**
Correct! At the least, the headers will include host information (like IP address or domain name) and the content that the requester will accept.

☑ request-line

⊘ **Correct**
Correct! The request-line includes the request method (such as POST or PUT), the request URI, and the protocol.

5. Which of these are essential parts of an HTTP server response? Choose the **two correct** answers.

1 / 1 poi

☐ a message body

☐ response-line

☑ headers

⊘ **Correct**
Correct! Just like in the request, there are headers to give information about the response.

☑ status-line

⊘ **Correct**
Correct! The status line will give the HTTP status code. If the request is successful then this will likely be "200 OK"

6. Consider the following two statements about Javascript. Choose the one correct option.

1 / 1 poi

1. It can allow you to generate content within the browser

2. A Javascript file must be sent in addition to an HTML file

⦿ Only the first statement is true

◯ Only the second statement is true

◯ Both statements are true

○ Neither statement is true

 Correct
Correct! Style and content can be generated within the browser, reducing interactions with the server.

7. What is the term for the action that converts the parameters into a standardized message on the client side?

1 / 1 poi

● marshalling

○ binding

○ invocation

○ blocking

 Correct
Correct! This is called marshalling.

8. Consider the following two statements about middleware and RPC. Choose the one correct option.

1 / 1 poi

   1. RPC (Remote Procedure Call) is a form of middleware

2. The IDL (Interface Definition Language) is responsible for generating stubs

○ Only the first statement is true

○ Only the second statement is true

● Both statements are true

○ Neither statement is true

 Correct

Correct! Both of these statements are true. Since RPC is a component that facilitates communication between remote processes, it is considered middleware. The IDL not only catalogs the procedures available but also generates the stubs needed to call them.

9. Which of these can be found in Common Object Request Broker Architecture (CORBA)? Choose the **three correct** answers.

1 / 1 poi

☑ facilities

⊘ **Correct**
Correct! Facilities provide application-level services like document management.

☐ client and server stubs

☑ object request broker

⊘ **Correct**
Correct! This is an important part of the architecture.

☑ interface definition language

⊘ **Correct**
Correct! Just like RPC, CORBA has an IDL.

10. What are some disadvantages of CORBA? Choose the **two correct** answers.

0 / 1 poi

☑ Clients and servers must be implemented in the same language

⊗ **This should not be selected**
Incorrect. CORBA allows for communication between different object-oriented languages.

☐ Dynamic binding is impossible

☑ Objects are always called remotely

⊘ **Correct**
Correct! This is a problem if objects are local to one another, since it is an unnecessary overhead.

☐ Implementation is difficult

11. In what format are SOAP messages represented? 1 / 1 poi

◉ XML

◯ JSON

◯ HTML

◯ SOAP formatting is not based on any other format

⊘ **Correct**
Correct! SOAP, like all of the WS* web services, is based on XML.

12. Which part of a SOAP message can be included but is **NOT** required? 1 / 1 poi

◯ HTTP method

◉ header

◯ body

◯ envelope

⊘ **Correct**
Correct! A header is not necessary, but may be included, and contains information about routing or the client.

13. True or False: a SOAP message must be sent over HTTP.

1 / 1 poi

○ True

◉ False

⊘ **Correct**
Correct! Other protocols such as SMTP (email) or FTP can be used.

14. Which type of description will a service requester need to bind to a web service?

1 / 1 poi

○ WS-Description

◉ WSDL

○ SOAP

○ UDDI

⊘ **Correct**
Correct! WSDL describes the interface so that a service requester can bind to it.

15. Which section of WSDL 2.0 contains concrete information like physical ports and mapping interfaces to endpoints?

1 / 1 poi

○ bindings

○ portTypes

○ interfaces

◉ services

✓ **Correct**
Correct! The services section specifies which interfaces and bindings to use and at which physical port or endpoint.

16. What does the types section of a WSDL 2.0 document allow developers to do?

1 / 1 poi

◉ Define abstract data types

◯ Specify document-style or RPC-style interaction

◯ Specify which communications protocol is used (HTTP, SMTP…)

◯ Specifies the type of interaction (request-response, solicit-response…)

✓ **Correct**
Correct! This sections allows for the definition of abstract data types that will be used in the invocation.

17. Which aspects of web services does UDDI allow you to implement? Choose the **two correct** answers.

1 / 1 poi

☐ invocation

☑ publication

✓ **Correct**
Correct! UDDI can be used to publish services so that they can be found by service requesters.

☑ discovery

✓ **Correct**
Correct! Service requesters can find services by searching UDDI directories.

☐ composition

18. In which section of a UDDI description will you find information like the category of business and service?

○ yellow pages ⊙

○ white pages

○ blue pages

○ green pages

✓ **Correct**
Correct! Think of this like the real yellow pages, where you can find a business according to their business type, but precisely and hierarchically defined.

1 / 1 point

19. Under which data structure of UDDI will you find a reference to the WSDL description?

○ businessEntity

○ businessService

⊙ tModel

○ serviceInterface

✓ **Correct**
Correct! The tModels will have various technical descriptions that can reference each other. One of these will reference a WSDL description.

1 / 1 point

20. What is the difference between coordination and composition in the context of services?

1 / 1 point

○ composition exposes a combination of services as another service

○ coordination is focused on pairwise interactions

○ coordination can only be done in a synchronous way

○ composition uses only objects

✓ **Correct**
 Correct! The defining feature of composition is that the services are combined and exposed as a composite service.

21. Consider the following two statements. Choose the one correct option.   **1 / 1 poi**

  1. WS-BPEL only allows you to compose services out of basic services.

2. WS-BPEL has other features such as conditional logic and the ability to store state.

○ Only the first statement is true

◉ Only the second statement is true

○ Both statements are true

○ Both statements are false

✓ **Correct**
Correct! These features help you attain rich functionality when you create composite services.

22. What does it mean that RESTful services are cacheable?   **0 / 1 poi**

○ the server can store the state of the interaction

○ the server can queue and prioritize requests

○ the service logic can be stored on the client

○ the client can store a version of the server's response

⊗ **Incorrect**
Incorrect. The service logic always remains on the server. Only a response can be stored locally.

23. Which of these formats can be used within the invocation of a REST service? Choose the **three correct** answers.

1 / 1 poi

☐ WSDL

☑ simple text

⊘ **Correct**
Correct! Even simple text works for REST services as long as the client and server both understand it.

☑ JSON

⊘ **Correct**
Correct! JSON is an acceptable and widely used format for passing information to and from a REST service.

☑ XML

⊘ **Correct**
Correct! XML can definitely be used for passing information to and from a REST service.

24. Which of these is a good name for a REST resource? In other words, which of these resource names follow best practices? Choose the **two correct** answers.

1 / 1 poi

☑ /cars/2

   ⊘ **Correct**
   Correct! We recommend using plural names for your resources for consistency.

☑ /cars/2/tires

   ⊘ **Correct**
   Correct! Sub-resources can show the relationship between resources.

☐ /car/2

☐ /getCar/2

25. You received an HTTP status code 201 from the server, which means that a resource was created. In a well-designed REST service, which HTTP methods did you send to the server?

   1 / 1 poi

🔘 POST

⚪ DELETE

⚪ PUT

⚪ GET

   ⊘ **Correct**
   Correct! POST is usually used to create a new resource in RESTful web services.

26. Which of these elements in the HTTP header of a request specifies the format of the response?

   0 / 1 poi

⚪ Host

- ◉ Content-Encoding:

- ○ Accept:

- ○ Content-Type:

⊗ **Incorrect**
Incorrect. This field gives information about how to decode the content.

27. What is the most important difference between WS*-style web services (which utilize SOAP, WSDL, etc.) and RESTful web services?

1 / 1 poi

- ○ WS* are more secure

- ◉ RESTful services are simpler

- ○ They do not use the same transfer protocol

- ○ Their differences are very minor

⊘ **Correct**
Correct! RESTful services do not impose as many restrictions on the data format, etc., and use simple HTTP methods. Be careful, though, as both styles of web services may become complex.

28. Where are the formats of the input and output data specified, according to REST best practices?

1 / 1 poi

- ○ In the HTTP request in JSON format

- ◉ In the HTTP header

- ○ In the HTTP request in XML format

- ○ As parameters in the URL

⊘ **Correct**

Correct! The HTTP header can specify the format of the request and what kind of response it will understand in the response from the server.

29. What are some advantages of microservices architecture? Select the **two correct** answers.

1 / 1 poi

☐ No centralized management

☐ Good performance

☑ Scaling through replication

> ⊘ **Correct**
> Correct! Scaling can be achieved through replication of services, and this scaling can be done independent of other services.

☑ Services can be developed in different languages

> ⊘ **Correct**
> Correct! This allows developers to use the best tools for the job, and even to try new languages in some parts of the software.

30. Consider the following two statements about microservices architecture. Choose the one correct option.

0 / 1 poi

1. Communication between microservices is stateless

2. Testing microservice architecture is complex

○ Only the first statement is true.

○ Only the second statement is true

○ Both statements are true

◉ Neither statement is true

⊗ Incorrect

Incorrect. At least one of these statements is true!