1. **Surveillance d'un barrage hydroélectrique par caméras IP**

Hauteur du barrage :\_ \_ \_ \_ Longueur du barrage : \_ \_ \_ \_

Nombre de pendules : \_ \_ \_ \_ Hauteur pendule : \_ \_ \_ \_

Nombre de caméra pour un pendule : \_ \_ \_ \_

Principe de fonctionnement : \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

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1. **La caméra**

**2-1 Les caractéristiques**

Cette caméra permet-elle de voir la nuit ? \_ \_ \_ \_ \_

Si oui expliquer comment cela est possible (quelle(s) technologie(s) est(sont) employée(s)).

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Le type de tension (alternative ou continue)

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La valeur de la tension (préciser le minimum et le maximum).

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Le courant maximum que l'alimentation doit pouvoir fournir à la caméra .

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La puissance minimum de l'alimentation nécessaire pour alimenter la caméra .

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**2-2 Alimentation et technologie POE**

La caméra devant être placée à une distance de 50 mètres, on choisit d’utiliser la technologie POE.

Que signifie POE ? (donner le sigle en anglais et traduisez en Français)

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Expliquer ce qu’est le POE

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Pourquoi choisir d’utiliser le POE dans cette installation de caméra (quels sont les avantages)?

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Qu’est-ce qu’un « splitter » (séparateur) POE ?

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Quelle est la tension fournie par le switch POE ?

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Expliquer pourquoi l’ajout d’un « splitter abaisseur 12v » est indispensable avant la caméra.

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Le switch POE proposé sur le TP peut-il délivrer suffisamment de puissance en sortie pour pouvoir alimenter une caméra IP ? (Justifier la réponse)

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Quelle puissance ne faut-il pas dépasser au total ? Pourrait-on utiliser 4 caméra IP sur les 4 ports?

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1. **Le Hardware**

La caméra IP doit être reliée à un PC de télésurveillance.

Un opérateur avec téléphone portable doit également pouvoir se connecter et visualiser la caméra s’il est présent sur le site à une distance de moins de 100 mètres.

**3-1** **Les différents composants**

**Identifier** les différents composants à mettre en œuvre ( colonne 2 ).

**Identifier** la fonction des différents composants à mettre en œuvre ( colonne 3 ).

**Identifier** le symbole des différents composants à mettre en œuvre ( colonne 4 ).

|  |  |  |  |
| --- | --- | --- | --- |
| Photo | Nom | Fonction | Symbole normalisé |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**3-2** **Le schéma du réseau**

A l’aide des symboles normalisés, et d’une recherche internet, proposer un schéma réseau permettant de relier la caméra IP au PC de télésurveillance, ainsi qu’au téléphone portable.

Schéma proposé :



Caméra IP

IP:

Ordinateur

IP:



Portable

1. **Le Hardware**

Chaque appareil possède une carte réseau ( PC, caméra, téléphone portable…), qu’il soit filaire ou wifi. Cette carte réseau s’identifie sur le réseau à l’aide d’une adresse IP. L’adresse IP de la caméra est : **192.168.8.30**

Le masque de sous réseau 255.255.255.0 indique qu’il faut obligatoirement un PC d’adresse IP 192.168.8.XX ( avec XX = n’importe quel chiffre entre 1 et 254 ) pour pouvoir dialoguer avec la caméra.

Adresse IP du PC : \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

Adresse IP modifiée du PC : \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

**Visualiser** la caméra sur le PC à l’aide d’un logiciel de streaming vidéo comme VLC (lire un flux video -> rtsp://\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ /stream1)

Que signifie le sigle **RTSP** ? **Expliquer** en quelques mots ce que c’est.

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**Visualiser** la caméra sur votre téléphone portable à l’aide d’un logiciel de streaming vidéo comme VLC (lire un flux video -> rtsp:// \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ /stream1)

A l’aide d’une recherche internet, expliquer la différence entre MPEG4, MJPEG et H.264 ( c.f. datasheet caméra )

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